

THE UNIVERSITY OF ALBERTA
MDES FINAL VISUAL PRESENTATION

by

JOHANNA PEDERSEN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF DESIGN

IN

VISUAL COMMUNICATION DESIGN
DEPARTMENT OF ART AND DESIGN

EDMONTON, ALBERTA

SUMMER 1993



Digitized by the Internet Archive
in 2024 with funding from
University of Alberta Library

<https://archive.org/details/Pedersen1993>

THE UNIVERSITY OF ALBERTA
FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend
to the Faculty of Graduate Studies and Research, for acceptance, a
thesis entitled:

HYBRID ELECTRIC VEHICLES: A PUBLIC AWARENESS CAMPAIGN

submitted by JOHANNA PEDERSEN
in partial fulfillment of the requirements for the degree of Master of
Design.

The University of Alberta

RELEASE FORM

NAME OF AUTHOR JOHANNA PEDERSEN

TITLE OF THESIS HYBRID ELECTRIC VEHICLES: A PUBLIC AWARENESS CAMPAIGN

DEGREE FOR WHICH THESIS WAS GRANTED MASTER OF DESIGN

YEAR THIS DEGREE WAS GRANTED 1993

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis, and to lend or sell such copies for private, scholarly, or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

HYBRID ELECTRIC VEHICLES: A PUBLIC AWARENESS CAMPAIGN

Johanna Pedersen

July 1993

Visual Communication Design

Master's Thesis Project

Department of Art & Design

University of Alberta

Table of Contents

Acknowledgements

Abstract

A	<i>The University of Alberta HEV Project</i>	6
	Background	
	Hybrid Electric Vehicle profile	
B	<i>Visual Identity</i>	12
	Establishing an identity	
	Establishing an identity for the HEV Project	
	Practical considerations when designing a logo	
	HEV identity design: methodology	
	HEV logo: rationale	
C	<i>Approach for the Design of the Campaign</i>	17
	Social marketing & advertising as tools for promotion	
D	<i>Market Segmentation and Market Targeting</i>	20
	An overview	
	Defining market segmentation	
	HEV Video: selecting market variables	
	HEV's: selecting market variables	
	Defining market targeting	
	HEV Video: target audience	
	HEV's: target audience	
E	<i>Market Positioning</i>	37
	Definition	
	Positioning strategies	
	HEV's: positioning strategy	
F	<i>Strategy Platform for Campaign</i>	39
	HEV's communicational framework	

F1	<i>Creating a Message</i>	41
	Message content	
	Message structure	
F2	<i>Selecting Media</i>	42
	Types of communication channels	
F3	<i>HEV's Message & Media Strategies</i>	43
	Targeting adult Emulators and Achievers	
	Targeting Socially Conscious adults	
	Targeting the Outer-directed young Experiencers	
G	<i>HEV Video-animation</i>	47
	Communicational medium	
	Objectives	
	Delivery context	
	Visual language and tone	
	Sequence structuring: form & content	
	Storyboard	
	<i>Bibliography</i>	53
	Appendix I	56
	Logo process	
	Appendix II	58
	Storyboard	
	Appendix III	74
	Timegraph	

Acknowledgements

I would like to express my thanks to the people who gave me valuable assistance in the development of this thesis. First is my supervisor, Jorge Frascara, Visual Communication Design professor and researcher, who provided intellectual support and guidance. Special thanks go to Desmond Rochfort, Chairman of the Department of Art & Design, who consistently gave me encouragement and resources by way of his enthusiasm for the HEV Project. Thanks to professor Peter Bartl who offered valuable advice and made constructive comments over these last two years.

Although the video may seem to be an individual effort, it is really the result of teamwork. My thanks are extended to Kyle Loranger, who generously illustrated the storyboard. I especially appreciate his patience and many insights. Thanks to Michael Coderre who composed the music; Ian Leung, for his voice; and Marcella Daye for her help in polishing the video's narration. Three other students, Todd Cherniawsky, Tom McCandless and James Paras kindly produced the animation sequences. Access Network, Videotron, Avicom, Tinsel Media Productions, Studio Post & Transfer, and ITV gave generously their time and expertise towards making the video a reality. I thank all their efforts.

Also, I am grateful to my departmental colleagues and friends, Sue Colberg, Ed Aoki and Corrie Herringa, who provided outstanding feedback. Thanks to Dave Roles, Louise Asselstine and Blair Brennan for their technical assistance.

On a more personal level, my thanks go to my mother, Delia, and to my fiancé Hernán, both who gave me their love, understanding and support throughout my entire career. Without their help and encouragement I would never have been able to undertake this challenge.

Abstract

The purpose of this thesis is to design communicational materials in support of Hybrid Electric Vehicles. The basis of the campaign is defined by the application of relevant marketing concepts, which contributed substantially to the creation of an appropriate visual identity, promotional video and advertisements. The thesis can be divided into five parts. Part I introduces the University of Alberta HEV Project. Part II presents the project's identity. Part III describes the concepts of market segmentation, target marketing and positioning, which are then applied conceptually to the HEV video and the HEV car. Part IV focuses on the actual message and media implementation by choosing a strategy from among the various possible positioning approaches to target audiences. Part V involves the planning and production of the HEV video-animation. The last three parts: marketing, advertising and video with computer animation sequences, as well as the HEV high-tech/environmentally friendly concept, reflect what today is defined as *state-of-the-art* in both communications and engineering.

From a personal perspective and as a designer, I have gained invaluable knowledge and experience throughout the development of this thesis. Firstly, I consider indispensable that in the process of design, one must incorporate views from other professional fields so one can produce designs that are conceptually, visually and functionally appropriate. Secondly, I had the opportunity to evaluate the effectiveness of my own design (HEV's visual identity), which unfortunately in most cases is a step designer's leave out after implementing their designs. Finally, I strongly believe that marketing research plays a vital role in the field of Graphic Design as means of aiding in the communication of cohesive and effective messages targeted to specific audiences.

THE UNIVERSITY OF ALBERTA HEV PROJECT

Background

Universities across North America have competed to produce the best practical, economical and technologically feasible vehicle, powered by a combination of an electric motor and an internal combustion engine. They have come to call this a Hybrid Electric Vehicle; for short HEV. The goal behind HEV's is to reduce air pollution in cities by reducing the burning of fossil fuels and relying on battery power to cover the short distances involved.

The increasing severe smog problems combined with people's growing environmental concern, has influenced many governments belonging to first world countries, to pass strict automobile emission standards. Such is the case of the 1990 Clean Air Act in the U. S. and California's Auto Emission Standards. These standards, soon adopted by New York and Massachusetts, require that at least 2% of any auto manufacturer's new car sales in 1998 be zero-emission vehicles. This limit is expected to increase to 10% by the year 2003. Due to these regulations, it is anticipated that major markets for zero emission vehicles, including HEV's, will open in North America in the late 1990's.

As a result, in November 1991, the Ford Motor Company, the United States Department of Energy and the Society of Automotive Engineers International, issued the project called "The HEV Challenge." Proposal requests were sent to hundreds of universities and colleges in North America. In January 1992, the University of Alberta was among the thirty post-secondary schools in North America and one of the two in Canada whose proposals were accepted to implement their designs. It was also one of the eighteen who chose to convert a Ford Escort station wagon into an HEV; the other twelve chose to build a Hybrid from the ground up.

Although the University of Alberta HEV Project had begun solely as an engineering challenge, the University of Alberta was the only school that developed a unique collaborative team effort. While Mechanical and Electrical Engineering students modified the vehicle --donated by Ford-- into a functional HEV, additional students from diverse disciplines were recruited. Industrial designers created a life-size model of the new HEV engine. They also built a dashboard prototype which accommodated the new power system displays. Graphic designers became involved in the creation of the projects' exhibition display and the development of the

team's visual identity, promotional brochure and educational computer animated video. Students from the faculties of Home Economics and Business were also involved.

The U of A team successfully sought out sponsors. Several companies and government agencies provided support through the donation of funds, materials or technical equipment and contributed greatly to the development of the University of Alberta Hybrid Electric Vehicle.

On May 28, 1993, after 17 months, as the competition date approached, the car was ready to be put on a trailer and be driven straight to Dearborn, Michigan. There were a number of categories on which the HEV's were judged. The University of Alberta received eleven awards out of thirteen, winning the top prize in the Escort conversion class. The other Canadian school, Concordia University in Montreal, captured third place. The U of A HEV was judged first in the range event, acceleration, commuter challenge, performance, design innovation and creativity, ergonomics, and team spirit and sportsmanship; it came out second in oral presentation, engineering design, and best use of materials; and it turned out third in the cost assessment category. The other first prize winner was Cornell University, but in the ground-up class.

The University of Alberta team was awarded \$14,500 in prize money. Some team members took the HEV on a cross-Canada tour, visiting schools, universities and shopping centres, with the objective of promoting the positive environmental impact of alternative fuel vehicles.

The students at the University of Alberta, as well as at all the other participating schools, have successfully taken a huge environmental step forward. All the motivation, effort, dedication and endeavour that was put into the accomplishment of the project, should not only be recognized with high honours, but should remain as an inspiring achievement that encourages further development and teamwork towards the final production of environmentally friendly vehicles.

Hybrid Electric Vehicle Profile

The U of A's Hybrid is powered by two small electric motors, a one-litre three cylinder internal combustion engine, and a coupler linking them together. With this system the HEV can operate in three modes: electric mode only, internal combustion mode only, or a combined hybrid mode.

Driving fully on electric power in the city --where smog and pollution are at the heaviest-- it produces no emissions and no hazardous liquid wastes like engine oil or anti-freeze. In electric mode, the HEV is estimated to be 97% less polluting than conventional powered vehicles. In this mode, the vehicle has a range of about 80 km, driving at city speeds, or 120 km at a steady speed of 60 km/h. The electric batteries have to be re-charged every 70 to 120 km interval. Recharging time takes 6 to 8 hours with household power outlets and 2 hours with service station power outlets. Charging every night, the batteries are expected to last approximately 5 years (80,000 km).

On the other hand, the gasoline engine can be switched on at any point, providing a further range of up to 500 km, compensating for the limited capacity of the batteries. While running on gas, the HEV also has the capability to recharge its batteries. Nevertheless, with HEV's, the problem of urban smog can be minimized while still allowing the public to travel long distances.

In order to give the Hybrid extra performance, it can run in a combination mode, using both the electric and gasoline motors. For example, getting from 0 to 100 km in electric mode will take a slow rate of 19.6 seconds. But in the combo-mode, 0 to 100 km is reduced to only 10.8 seconds, almost a full second less than a conventional Escort station wagon. The emissions produced in the hybrid mode are still only 30% of those produced by a standard car powered by a 1.9 litre 4 cylinder engine.

In the converted HEV, the back seat had to be removed in order to accomodate the batteries. While their weight prevented the engineers from placing them at the very back of the car, their central position results in a car with excellent handling. If the car were mass-produced, however, the batteries could be accomodated without significantly altering the interior of the vehicle.

A major preoccupation relating to electric vehicles is that in Alberta, like in many other places, electricity is produced by coal-fired generating

plants, which create their own environmental problems, including greenhouse effects and acidic emissions. But government standards are much easier to regulate and monitor over a dozen power generating stations than over two million combustion engine cars. While today hybrid electric vehicles are highly expensive, hundreds of millions of dollars are being poured into research to develop them, in large part because of California's future zero-emission regulations. With this legislation, it means there will have to be a whole lot of electric vehicles in use. It means mass-production. Mass-production is critical to bring down the costs of components which currently put the price of electric vehicles far beyond the average car buyer.

If the price of electric vehicles can be brought down to competitive levels, electric charging costs will be 50% lower than gasoline. Replacing batteries could be costly, but car maintenance would also be much less, as there's no need for tune-ups and oil changes in electric cars. There's also the environmental advantage, which means more than reducing air pollution since it also reduces noise levels, site deterioration and the burning of fossil fuels. Hopefully in the next decade battery technology will get to a state in which the internal combustion engine won't be necessary anymore. Canada, because of its climate, already has much of the necessary infrastructure for electric cars at people's homes, offices and some parking lots. Possibly one day, gas stations will be replaced by electric power outlets where you could stop, plug your car, and "fill it up."

Given the fast pace of technological development and the market and legislation incentives, very soon we'll have Hybrid vehicles that meet everybody's expectations in both price and performance. The electric car technology promises something the internal combustion engine can't -- the chance to continue owning and driving personal transportation in a future where environmental regulations will continue to tighten while resources like oil will become more and more precious. Automobile exhaust is by far the largest producer of man-made greenhouse gases in Canada and is the major cause of urban air pollution. Electric cars are a viable alternative to the polluting internal combustion engine. They might soon be a boom, especially if wind and solar energy generation sources are pursued in the near future.

The following list summarizes the University of Alberta's HEV advantages, components, attributes, and drawbacks:

ADVANTAGES

Environmentally friendly

- Reduces urban air pollution.
- Reduces burning of fossil fuels.
- Reduces noise level.
- Reduces site deterioration.

User friendly

- Easy to drive.

Hybrid

- Extra acceleration performance (in Hybrid mode) 0-100 km/h: 10.8 secs.
- Batteries recharge when car cruises in Hybrid mode.
- Overcomes the limited range of a pure electric vehicle.

Practicality

- Less expensive running: \$1.8/km (electricity) as opposed to \$5/km (gasoline).
- Electric motor maintenance (has fewer moving parts).

Feasibility

- All components of the car are already in the market; easy to manufacture the car.

Handling

- Central location of battery box ensures good centre of gravity.

COMPONENTS

- Electric motor: two BRLS 16 (Solectria) with max. 30 hp. each and 37 lb.ft.torque each.
- Internal combustion engine: aluminium Suzuki Swift GA 3 cylinder engine with 50-55 hp. and 50 lb.ft. of torque.
- Batteries: SAFT STM series 1.60 Nickel cadmium cells which allows 75 km of city driving or 120 km at steady velocity of 60 km/h.
- Battery containment box: (143 cells=170 volts) safety in crash conditions, vented against vapor hazards, sealed against harmful liquids.
- Mechanical Coupler: allows the electric motors and the internal

combustion engine to output power to the transmission.

- Transaxle and transmission: maintain Ford Escort's.

ATTRIBUTES

Acceleration Performance (0-100 km/h)

- Electric mode= 19.6 seconds.
- Hybrid mode= 10.8 seconds.
- (vs. conventional Escort= 11.6 seconds)

Driving Range

- Full tank of fuel: 30 litres (16.5 km/litre)= 495 km.
- Full charge of batteries (EM): 155 volts= 80 km.

Regenerative Breaking Ability

- This configuration provides the advantage of charging the batteries.

DRAWBACKS

- Price: \$ 70,000 (if not mass produced).
- Seating capacity: two passenger vehicle.
- Battery life: 5 years or 80,000 km (2000 cycles) on the basis of daily recharges (or longer depending on use and recharges).
- Battery recharging time: 6-8 hrs. with household power outlets and 2 hrs. with service station power outlets.
- Vehicle's weight: 3,500 lbs.

From a marketing perspective, today's Hybrid needs further improvements before it is introduced to the market. Drawbacks such as price, driving range in electric mode, battery life, battery recharging time, and vehicle's weight, result in the HEV's marketing impossibility. However, as stated previously, battery technology is improving quickly, so issues such as range and performance are becoming less critical. Therefore, for the purpose of this thesis, specifically for the design of the advertisements, it will be assumed that the HEV will be at its best --except for one feature: highly priced, ranging from \$30,000 to \$35,000.

VISUAL IDENTITY

Establishing an Identity

“Identity is expressed in the names, symbols, logos, colours and rites of passage which the organization uses to distinguish itself, its brands and its constituent companies. At one level, these serve the same purpose as religious symbolism, chivalric heraldry or national flags and symbols: they encapsulate and make vivid a collective sense of belonging and purpose. At another level, they represent consistent standards of quality and therefore encourage consumer loyalty.”¹

As we go into the twenty first century, companies producing the most competitive products will survive. It's likely that their products will become increasingly similar. As a result, the company's identity will become the most significant factor in determining which company and/or products will be chosen by consumers.

The importance of establishing a corporate identity is explained in the points listed below:

- 1) An identity differentiates a company and its products from those of its competitors.
- 2) It symbolizes a company's ethos.
- 3) It aids in building an image.
- 4) It helps a company exist in the public sphere by aiding recognition.
- 5) It helps a company prevail in the competitive marketplace.
- 6) It unifies the entire range of an organization's corporate-related materials (e.g., packaging, signage, annual reports, advertising).

Establishing an Identity for the HEV Project

Establishing a visual identity for the University of Alberta HEV Project is important for the following reasons:

- 1) An identity helps the Project present itself to, and distinguish itself from, the other twenty nine universities at the competition (it elevates the status and visibility of the University of Alberta's Project team).
- 2) It serves as a promotional tool: creates awareness and aids in fund-raising.
- 3) It builds a positive image in the minds of the public.
- 4) It unifies the project: the various disciplines involved are under the

¹
Olins, Wally. 1992. *Corporate Identity: Making Business Strategy Visible Through Design*. Great Britain, UK: Thames & Hudson, p.9.

same 'signature.'

5) It helps the project team communicate its personality loudly and clearly.

Practical Considerations When Designing a Logo

A logo represents the most important thing that establishes a visual identity.

1) A logo should maintain its clarity and integrity in black and white or color, on all types of surfaces, papers, clothing, etc. (If the logo has too many tones or lines, it can lose its clarity in certain applications such as newspapers).

2) A logo must work either large or small scale; it should be legible when reduced down to one-eighth of an inch, yet effective on a billboard as well.

3) The use of color gives the logo "life," accentuates formal and/or emotional qualities, and facilitates perception, awareness and recall.

4) A logo should be:
distinct
appropriate
likeable
memorable
original
and have the potential for systematic applications.

HEV Identity Design: Methodology

In the process of designing a visual identity for the HEV Project, four basic stages were undertaken to achieve an effective design solution:

Stage I: Analysis

Stage II: Design exploration

Stage III: Design refinement

Stage IV: Implementation

The first stage of the process, *analysis*, involved an examination of the HEV Project, through gathering information about and understanding each aspect of it, including its former identity. In general terms, the HEV

Project presented a complex mix of concerns and ideas about the environment, the competition, new technology, and student involvement that would have to be taken into consideration for an identity. This identity would have to symbolize those major concerns in form and color. After researching the subject, the design problem was defined as follows:

To create a new visual identity for the Hybrid Electric Vehicle Project at the University of Alberta in order to build awareness about this university-related project using two communications media: audio-visual and print.

After defining the problem, a set of objectives was prepared. These objectives included recommendations to the client (the engineering students) about ways that could strengthen their existing identity or create a new one. It was agreed that a new identity was to be developed.

The second stage, *design exploration*, began with the development of alternative logo design solutions resulting from the objectives established in the previous stage. A list of attributes (see Fig. 1, following page) was devised by listing, as headings, the qualities that were to be conveyed by the new design. Below each attribute, possible components were listed that reinforced that quality. Then, systematic combinations were made by selecting one attribute from each list and assembling the combinations into a logo.

The third stage, *design refinement*, involved working on the clients' preferred design concepts. The logo was to be based on the linkage between the specific idea of the technical nature of the project and the broader idea of working toward a cleaner environment. Variations of the logo were explored. The modified version was then presented again to the client with different applications of the logo to stationery.

The last stage, *implementation*, following the acceptance of the new logo design, marked the starting point of the development of the HEV's identity system. Each application of the logo to elements of the system was a design problem on its own. The challenge behind developing a logo for the HEV Project was to efficiently combine a number of complex ideas into a simple, distinctive mark.

		<i>Attributes</i>		
<i>Possible Components</i>		Mechanical	Environmental	General
		voltage waveform	tree	dynamic
		battery symbol	color green	interdisciplinary
		gauge	letter 'e'	university
		mode switch	organic form	confidence
		vehicle	circle	future
		lightning bolt	no pollution	innovative
		high-tech	clean	optimism
		wire connection	friendliness	unique
		ease of use	globe	energy
		electricity		sketches

Figure 1

Appendix I shows a combination of the last three design stages.

HEV Logo Rationale

The final logo design meets all the requirements with the following features:

- The positive and negative lower case 'e' provides a focal point and visual contrast among the capital letters, creating visual interest and aiding readability.
- This combination of two capitals and the lower case letter clearly differentiates HeV from HIV.
- The 'e' which stands for "electric" is also the initial of other relevant words such as: environment, education, enthusiasm, etc.
- The design of the letter H which stands for Hybrid derives from the symbol for battery, well known to engineers.
- An abstracted thunderbolt combined with two unequal curved lines form a dynamic semi-circle which reinforces the memorability of the logotype because of its visual impact.

- The logo conveys optimism through the strong V diagonal combined with the perceived left to right circular motion.
- The accompanying condensed serif typeface gives the logo a somewhat sophisticated-friendly look.
- Green and yellow colors are identified with the University of Alberta. A third color, blue, gives the logo a distinct character, while still maintaining its association with the University. The three colors combined also convey environment, cleanliness and friendliness.
- The dynamic semicircle is equally effective in colors or in black only.

APPROACH FOR THE DESIGN OF THE CAMPAIGN

Social Marketing & Advertising as Tools for Promotion

Given that the objective of the HEV campaign is to create *awareness* of a “social cause/product” (environmentally friendly vehicle), its approach should combine *social marketing* and *advertising* techniques. I will broadly define those marketing concepts which are more relevant to the approach adopted for the HEV campaign.

“The marketing concept holds that achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfactions more efficiently than competitors.”² Broadly reviewed, a *marketing* function starts with a well-defined market and focuses on consumers’ needs and wants. Then it develops a *product* or service to satisfy these needs, by offering it at a certain *price*, making it available through a particular *place* or channel of distribution and developing a program for *promotion* or communication to create awareness and interest. These four p’s --product, price, place (distribution), and promotion-- strategically combined are known as the “marketing mix”.

The last element in the marketing plan-- *promotion*-- is directly related to the launching of the HEV campaign (promoting an idea-product). The HEV campaign’s promotional strategy is based on communicating the attributes of Hybrid Electric Vehicles to prospective audiences to facilitate present or future sales. “Promotion is the communication function of marketing.”³ It includes a number of activities: advertising, personal selling, publicity/public relations and sales promotions, which differ in terms of their intended result, but together are referred to as the “promotional mix.”

From these promotional activities, *advertising* techniques are most useful for the HEV campaign, as means of creating a persuasive visual and/or verbal message(s) that would essentially:

1) generate *awareness* that HEV’s are environmentally friendly vehicles, available in the marketplace, 2) *communicate* a memorable message that could be accurately understood and 3) *influence* the viewer/reader positively on either vehicle purchase or attitude towards the HEV.

Expanding on the first function that an HEV advertisement should perform, the term *awareness* means “that the name of the brand name is in the person’s memory and that the person is able to state the name of the brand.”⁴ Thus, the person knows that the HEV Project exists.

² Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction*. (2nd. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc., p. 13.

³ Belch, George E., and Belch Michael A. 1990. *Introduction to Advertising and Promotion Management*. Homewood, IL; and Boston, MA: Richard D. Irwin, Inc., p. 6

⁴ Chakrapani, Chuck, and Deal, Kenneth R. 1992. *Marketing Research: Methods and Canadian Practice*. Scarborough, Ontario: Prentice-Hall Canada Inc., p. 176.

Since *advertising* is part of the promotion mix (while promotion mix is a category within the marketing mix), advertising is also referred to as marketing communications. It is paid, nonpersonal communication through which business firms, non profit organizations, or individuals inform and/or persuade members of a particular audience; it includes communication of products, services, institutions, and ideas.

Marketers provide advertisers a deeper understanding of what motivates target audiences. Advertisers are then able to create messages with precision and persuasive icons to attract those specific groups. Centering on the topic of ethics in advertising, which considers which values and lifestyles are to be encouraged as healthy and which are to be avoided, HEV's would fall in the first category.

"For an advertisement to be effective, it must be noticed, read, comprehended, believed and acted upon."⁵

The power of persuasive communication to shape consumers' attitudes and behavior can be used advantageously to promote "social products." "*Social marketing* is the design, implementation and control of programs seeking to increase the acceptability of a social idea, cause, or practice among a target group."⁶ This would involve a discouragement (or "de-marketing") of negative behaviors or lifestyles (i.e., consumption of harmful products). Social marketers plan and design social-change strategies based on the analysis of consumer attitudes and behaviors. Due to the fact that the HEV will not be manufactured immediately, the study of consumer behavior in relation to audience's interpretation's of HEV ads, is left open for a future project. However, for this thesis one can establish that: "Changing attitudes requires believable ads."⁷ Research studies have revealed that changing attitudes is becoming harder as more consumers simply don't believe the claims made by advertisers.

Social marketing, in the context of this thesis, specifically focuses on planning (but not implementing nor evaluating) a program aimed at informing and persuading specific audiences about the vehicle's existence, and its benefits. The design of the campaign should start with identifying potential target segments, concentrate on both promotion (advertising) and channels of distribution in order to determine which media is most appropriate for reaching the intended audiences.

"If commercial marketing methods can successfully move merchandise across the retail counter, those same techniques should be capable of creating a demand for such "social products" as energy conservation,

5
Aaker, David; Batra, Rajeev; and Myers, John. 1992. *Advertising Management*. (4th. edition) Englewood Cliffs, NJ: Prentice Hall, Inc., p. 79.

6
Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction*. (2nd. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc., p. 503.

7
Mowen, John C. 1990. *Consumer Behavior*. (2nd. edition) New York, NY: Macmillan Publishing Company, p. 258.

women's rights, and day-care centers...we should be able to sell brotherhood like we sell soap.”⁸

MARKET SEGMENTATION/ MARKET TARGETING

An Overview

It is necessary to segment a market in order to detect dissimilarities in people's needs, values, preferences, opinions, and every other relevant dimension, in relation to an idea, service or product. Market segmentation developed as companies realized that the single market they thought existed, was in effect a heterogeneous gross market which included different lifestyles and incomes. As people demanded product variations, production capabilities expanded. This, in turn, led to an increase in market segmentation as manufacturers sought to serve various needs and wants. Thus, market segmentation techniques provide a systematic approach which focuses precisely on identifiable groups, as opposed to the inaccurate, indiscriminated mass marketing techniques.

Markets may be segmented along several dimensions --cultural, social, personal and psychological. For the purpose of this project there is a need to identify and define two possible segments: one is the public to be reached by the video-animation that will promote the HEV, and the other, the public who could be interested in choosing an HEV as an alternative fuel vehicle. Only after having analyzed the alternatives for market segmentation, can one be in a position to identify and communicate with attractive target segments for both the video and the vehicle itself.

This section first presents the variables for segmenting a market, along with existing market segments. It then identifies in what way segmentation strategies are appropriate for the medium of video-animation and the launching of HEV's. Finally, it focuses on the description of the target market profile for each one of the two aspects of this thesis: the medium and the message.

Market Segmentation

"Market segmentation is the process of dividing a diverse market into groups of consumers with relatively similar characteristics, wants, needs, buying habits, or reactions to marketing efforts."⁹ Market segmentation consists in dividing a heterogeneous market into smaller homogeneous groups.

Currently, a typical first approach for segmenting consumer markets is

defined by seven variables: geographic, demographic, geodemographic, socioeconomic, usage, benefit, and psychographic.¹⁰ These seven ways of segmenting the market can also be seen as seven different levels: the lowest being geographic (the most manifest and conceptually simple) and the highest being psychographic (the most latent and conceptually complex).

1. Geographic Segmentation

Consists of dividing a market into different geographical units such as nations, states, countries, cities, neighbourhoods, climate, population densities, and so on. Geographic segmentation allow marketers to identify where the "buyers" are.

2. Demographic segmentation

Consists of dividing a market based on demographic factors that relate to: size of the market, gender, nationality, religion, race and factors relating to the life cycle such as marital status, family structure and age. "In general, demographic characteristics are those inherent in the individual or in the family unit."¹¹

3. Socio-economic segmentation

Consists in dividing a market according to factors that relate to: monetary and home ownership, social class, etc. Generally, socio-economic characteristics are those acquired by the individual or family unit (income, education, occupation, etc.)¹²

"Social classes are relatively permanent and ordered divisions in a society whose members share similar values,¹³ interests, and behaviours."¹⁴

The most influential and earliest American class structure, proposed by W. Lloyd Warner in 1941, identified six social classes:¹⁵

1. Upper Upper
2. Lower Upper
3. Upper Middle
4. Lower Middle
5. Upper Lower
6. Lower Lower

These classifications (in ascending order) indicate accessibility in terms of money, education, and luxury goods. There is a more contemporary view (Dec. 1983) of the American status structure:¹⁶

¹⁰ Chakrapani, Chuck, and Deal, Kenneth. 1992. *Marketing Research: Methods and Canadian Practice*. Prentice-Hall Canada Inc., Scarborough, Ontario, p. 421.

¹¹ Ibid., p. 432

¹² Ibid., p. 432

¹³ "A value is an enduring belief that some state is preferable to its opposite. They are very general ideas about good and bad goals." Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 480.

¹⁴ Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction* (2nd. ed.). Prentice-Hall: Englewoods Cliffs, NJ, p. 148.

¹⁵ Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 390.

¹⁶ Ibid., pg., 391; Kotler, Philip, and Armstrong. 1990. Gary, *Marketing: An Introduction* (2nd. ed.). Prentice-Hall: Englewoods Cliffs, NJ, pg., 149; Michman, Ronald D. 1991. *Lifestyle Market Segmentation*, Praeger Publishers: New York, pp. 116,117.

UPPER AMERICANS

Upper Uppers (0.3%) - Social elite. Sources of income are inherited; they give large sums to charity, spending is not done conspicuously.

Lower Uppers (1.2%) - Success through professional achievement. They purchase expensive status symbols such as yachts, homes, automobiles; they include the new rich who consume conspicuously to impress those below them.

Upper Middles (12.5%) - Career oriented and active in professional, community and social activities; possessions are frequently updated. Highly civic-minded; life-style centres on private clubs, social causes and the arts.

MIDDLE AMERICANS

Middle Class (32%) - Average pay white collar and blue collar workers; live on "the better side of town," try to "do the proper things." 25% own imported cars; oriented toward planning and saving for the future.

Working Class (38%) - Average pay blue-collar workers who lead a "working class lifestyle", whatever their income, school background or job.

LOWER AMERICANS

Upper Lovers (9%) - Working, not on welfare; most are educationally deficient, living standard is just above poverty.

Lower Lovers (7%) - On welfare, visibly poverty-stricken, usually out of work (or have "the dirtiest jobs").

4. Geodemographic segmentation

Consists of dividing a market according to a combined geographic, demographic and socioeconomic measure. "Sophisticated geodemographic techniques, which assume that people who live together share important characteristics, are being developed to fine-tune advertising and direct-marketing efforts by identifying and targeting consumers with relevant demographics in common."¹⁷ The three factors in geodemography have to be combined in order for it to be useful from a marketing perspective.

5. Usage segmentation:

Consists in dividing a market according to heaviness of product usage (e.g. user status: nonuser, potential user, regular user, etc. and usage rate:

17
Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p.469.

light, medium or heavy users). For instance, heavy users of a product may account for a large proportion of sales. Although it is also possible to convert non-user segments into users.

6. Benefit segmentation

Consists of dividing a market into groups according to the different benefits that consumers seek from products (e.g. quality, service, economy). Benefit segments can be used to identify new product opportunities. "The use of benefit segmentation analysis provides marketers with additional insights into consumer behavior situations."¹⁸

7. Psychographic segmentation

The application of this segmentation technique would include lifestyle¹⁹ and personality characteristics.²⁰ "A person's personality as it relates to consumption behaviour can be understood by studying his or her lifestyle."²¹ Psychographic variables can encompass attitudes, interests and opinions (AIO),²² self-concepts, and other aspects that define personality. Psychographics allows marketers to understand *why* a consumer "buys" a product.

"Lifestyle marketing recognizes that people sort themselves into groups on the basis of the things they like to do, how they like to spend their leisure time, and how they choose to spend their disposable income."²³ The most widely used lifestyle classification tool was developed at what is now SRI International in California: the VALS (Values and Life Styles) typology. "The typology characterizes groups within the U.S. adult population on the basis of their values, attitudes, needs, wants, beliefs, and demographics."²⁴

There exist two U.S. VALS versions.²⁵ The older version is divided into three main categories with a total of nine lifestyle types (see Diagram 2, next page).

18

Michman, Ronald D. 1991. *Lifestyle Market Segmentation*, Praeger Publishers: New York, p.51.

19

"Lifestyle is a person's pattern of living as expressed in his or her activities, interests, and opinions." Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction* (2nd. ed.). Prentice-Hall: Englewoods Cliffs, NJ, p. 152.

20

Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 492.

21

Chakrapani, Chuck, and Deal, Kenneth R. 1992. *Marketing Research: Methods and Canadian Practice*. Scarborough, Ontario: Prentice-Hall Canada Inc., p. 441.

22

"Most contemporary psychographic research attempts to group consumers according to some combination of three categories of variables: Activities, Interests, and Opinions: AIO's" Ibid., p. 441

23

Ibid., pg., 502; Smith and Quelch pg. 223; Michman, Ronald D. 1991. *Lifestyle Market Segmentation*, Praeger Publishers: New York, p. 60, 61.

24

Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 500.

25

Ibid., pp. 504, 506.

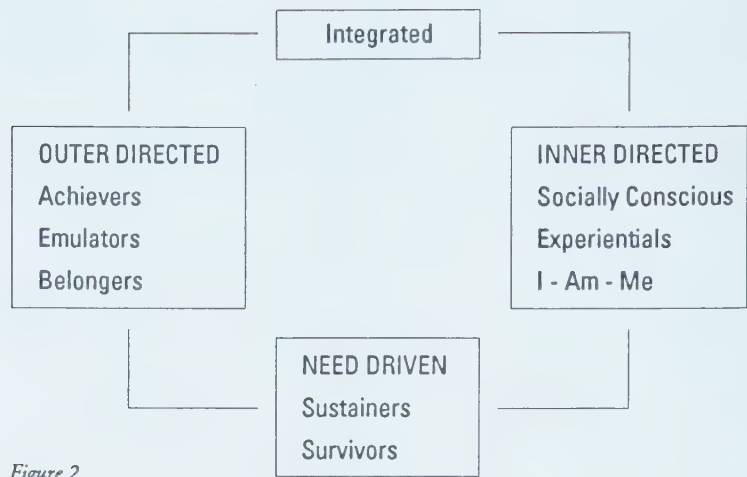


Figure 2

The **Need Driven** ²⁶ are people with limited resources who are driven more by need than by choice; their values centre around survival, safety and security; they are the furthest apart from the “cultural mainstream.” This type is categorized into two lifestyles: *survivors* and *sustainers*. People in the former group are poverty stricken, poorly educated, and old in age. Those in the latter are struggling at the edge of poverty; mostly young and unemployed; almost half are black or Hispanic (in the U.S.A).

The **Outer Directed** ²⁷ tend to look at others as guides for behaviours and values; they think of possessions as means of showing others their “worth” as a person; they create a large part of the American cultural mainstream. Three lifestyles: *Belongers*, *Emulators*, and *Achievers* comprise the Outer Directed.

Belongers are the solid, comfortable middle class; four out of ten Americans; they value security, stability and group identification; they don't like to be flashy; they tend to be conservative, conventional, nostalgic, sentimental and conforming.

The second group, *Emulators* have frustrated ambitions because they are struggling to join the *Achievers*; there is one in every ten Americans; they spend ostentatiously and tend to be in debt; they are status-conscious, macho, and competitive.

The third group, *Achievers*, include professionals, business and government people; one out of five; they tend to be materialistic and comfort loving; they are older, wealthy, well-educated and success and fame oriented.

Contrary to the Outer Directed, the **Inner Directed** ²⁸ tend to be against materialism; concerned with inner growth; they are self-expressive,

²⁶ Ibid., pg., 502; Smith and Quelch pg. 223; Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, pp. 60,61.

²⁷ Ibid.

²⁸ Ibid.

self centred, and individualistic. Three groups have been defined as inner directed: I-Am-Me's, Experimentals and Socially Conscious.

The first group, *I-Am-Me's* are typically young students, passionate about self-expression, individualistic, impulsive and narcissistic; they often define themselves better by things they do than by things they say.

The middle group, *Experimentals*, are the most Inner Directed; they believe in education, saving the environment and in experiencing anything that comes their way; they are attracted to the exotic, strange and to the natural. The third group in this category, the *Socially Conscious*, are very well educated, early middle-aged adults who care for society as a whole; they support societal causes such as environmentalism and conservation; they tend to be innovative, active, and well-informed; many make a comfortable living. Furthermore, the socially conscious segment has undergone extensive research as a result of the dramatic increase in environmental awareness during the last decade. But before analyzing this green consumer, a third group, within the Values and Life Styles categorization, the Integrated, will be described briefly.

As their name implies, the **Integrated**²⁹ combine outer and inner directed values; they are mature and psychologically balanced; they represent approximately one in fifty Americans.

In an article "Consumers turning green: JWT Survey," (Nov. 1990), J. Walter Thompson Co.'s Greenwatch study identified four groups of U. S. Green consumers:

- "1) *Die-hard greener than greens*: (23% of the population), tend to be better educated older females with high incomes and liberal orientation, who say they're willing to pay more for environmentally friendly products.
- 2) *Somewhat-concerned greens*: (59%), willing to make some sacrifices for the environment.
- 3) *Light greens*: (15%), concerned but unwilling to sacrifice.
- 4) *Un-greens*: (3%), tend to be younger, apolitical, less well-educated males, who earn less money, won't buy recycled products and say they 'live for today.'"³⁰

A second article, "Consumer doubletalk makes companies wary," states there are three phases in the "green-marketing revolution: "In the first stage, (already complete), consumers have been educated in the causes of significant environmental problems. The second phase, (near com-

²⁹
Ibid.

³⁰
Journal: *Advertising Age*, Vol: 61,
Iss: 47, Nov. 12, 1990., p. 74.

pletion), involves “convincing consumers to change their attitudes towards products depending on their environmental friendliness.”³¹ The third phase, (just beginning), presents uncertainty to marketers because although consumers say they are willing to pay more for environmentally friendly products, marketers fear consumers won’t pay more due to the recession. An environmental survey, Environment USA ‘91, produced these results: “74% say they consider environmental protection a priority, even if it means slower economic growth... 59% say they would pay 25 cents more per gallon of gas to cut air pollution; 55% would pay 50% more for garbage collection...”³²

Another 1990 survey, this time conducted by Roper Organization (a firm dealing with household products), sustains that there are “five distinct shades of environmental behavior: 1) True-Blue Greens, 2) Greenback Greens, 3) Sprouts, 4) Grouzers, and 5) Basic Browns.”³³

True-Blue Greens : (11% of the population); affluent, highly involved in pro-environmental activities. They say they would be willing to pay 7.4% more for the environmentally friendly products: recycled paper products, less-polluting gasoline, etc.

Greenback Greens : (11% of the population); youngest group and biggest environmental spenders. They say they would be willing to pay 19.6% more for green products.

Sprouts : (26% of the population); have positive and negative attitudes towards environmental activities. On average, they say they are willing to pay 4.8% more for green products.

Grouzers : (24% of the population); aren’t much involved in pro-environmental activities: they say others aren’t either. They say they would be willing to pay 4.4% more for green products.

Basic Browns : (28% of the population); aren’t interested in making an effort in improving the environment because they think people can’t make a difference.

The second version of VALS typology (VALS 2) is apparently easier to use, “but it has abandoned some of the conceptual foundation on which the original VALS was based.”³⁴ This structure divides people into eight groups which are determined by both psychological and socio-economic traits. As seen in Fig. 3, the groups are placed vertically by resources and horizontally by self-orientation.³⁵

31
Ibid.

32
Ibid.

33
Advertising Age, Vol: 62, No: 46,
Oct 28, 1991., p. GR4.

34
Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, pp. 504, 506.

35
Ibid.

1.1 **Actualizers**: "Successful consumers with many resources. This group is concerned with social issues and is open to change." (Resemble previous Integrated.)

2.1 **Fulfilled**: "Satisfied, reflective, and comfortable. They tend to be practical and value functionality."

2.2 **Achievers**: "Career-oriented and prefer predictability over risk or self-discovery."

2.3 **Experiencers**: "Impulsive, young, and enjoy offbeat or risky experiences." (Resemble previous Experientials.)

3.1 **Believers**: "Strong principles, and favour proven brands."

3.2 **Strivers**: "Are like Achievers, but with fewer resources. Very concerned about the approval of others." (Resemble previous Emulators.)

3.3 **Makers**: "Action oriented and tend to focus their energies on self-sufficiency."

4.1 **Strugglers**: "Are at the bottom of the ladder. They are most concerned with meeting the needs of the moment."³⁶ (Resemble previous survivor and sustainer groups.)

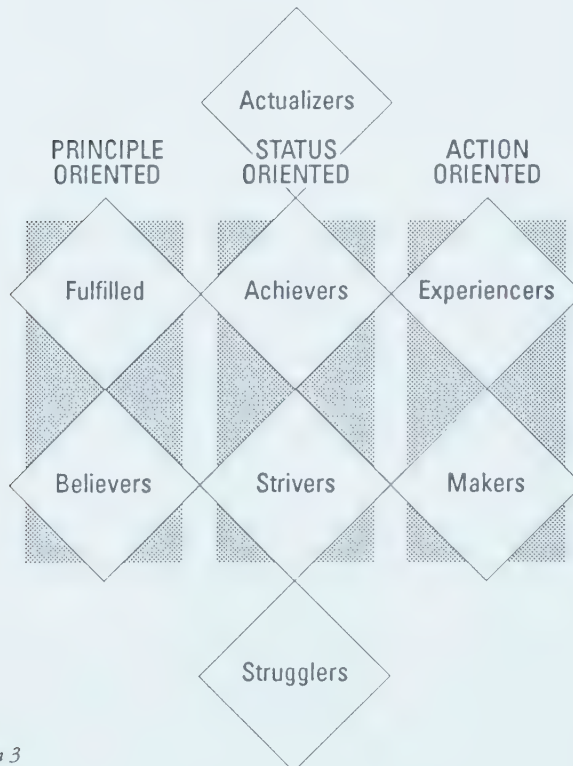


Diagram 3

Apart from these VALS segmentation strategies, a new research technique known as the “Cohort analysis”³⁷ will aid in defining the markets for the HEV video and the vehicle as a concept. This technique, developed by Trone Advertising Agency, helps marketers “position products throughout a consumer’s lifetime, even as consumers’ needs and markets continue to change.”³⁸

The four cohort groups are:

- 1) *Traditionalists*: Born in the 1920's and 1930's. “They’re patriotic, seek financial security and have strong work and religious ethics. They respect authority, leadership, civic-mindedness, optimism and discipline.”
- 2) *Transitioners*: Born in the 1930's and 1940's. “They value convenience and comfort, and are beginning to spend money on themselves now that their children have gone. Unreceptive to change, transitioners are making retirement plans...”
- 3) *Challengers*: Born in the 1950's. “Idolizers of youth, Challengers are becoming middle-aged and don’t like it... Their core values include individualism, self-fulfillment and social and environmental concern... Me-focused, they are self-righteous, idealistic and moralistic.”
- 4) *Space-Agers*: Born in the late 1960's. “Motivated by money for security, Space-agers look for lasting values, tangible benefits and instant gratification... Raised on MTV, Space-agers require intense, brief stimulation to catch interest. They don’t just talk action, they act.”

The seven major subgroupings— geographic, demographic, geo-demographic, socio-economic, usage, benefit and psychographic— help delineate distinct subcultures.³⁹ For instance, teenagers, university students, the elderly, middle-aged adults, the four cohort groups, etc., are age subgroups with distinct lifestyles and values which qualify them as separate subcultural groups. Other examples are: the Baby Boomers, a large post-World War II group of people born between 1946 and 1964. It is the most powerful age segment because of their size and economic power. Its subsegments include the Yuppies and the New Collars.

The first of the two (called the Bon Chic Bon Genres in France and the Sloane Rangers in the U.K.) are characterized as “young urban professionals” with college education and incomes of US\$50,000 or more per year. They are white collars; reside in metropolitan areas or the suburbs of metropolitan locations. Interested in personal fulfillment, Yuppies desire the “best of everything.” They are heavy users of products and services that

³⁷ ‘Cohorts’ are generations of people with the same birth years and core values.” *Advertising Age*, Vol: 62, No: 46, Oct 28, 1991., p. GR4.

³⁸ Ibid.

³⁹ ‘Subculture’ is a group whose members share beliefs and common experiences that set them apart from other members of a culture. Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 589.

enhance convenience. A 1986 survey also found that they “dislike advertising and don’t see it as a source for decision making.”⁴⁰ However, a more recent article, in “Esquire”, argued that this group is coming to an end because “the current Yuppies are getting older and will soon be middle-aged”.⁴¹ The article also states that the term Yuppie has changed to take a different meaning: “self-centred, greedy and consumed by materialism.”⁴²

The New Collars, on the other hand, belong to a emerging sub-segment. They are also known as the “would-be yuppies”, but their lower incomes (\$15.000-\$30.000 a year) prevent them from being so. They “occupy a gray area between professional and blue-collar jobs...Older New Collars are a hybrid of traditional values and the liberating effects of their experiences growing up in the 1960’s.

Subcultural groups have a great influence in defining cultural values and consumption patterns in a given society. Because these cultural values and lifestyles are in tremendous flux, marketers must recognize the importance of subcultures based upon geographic location, age, social class, behavior, and other categories discussed previously, in order to successfully communicate their message.

HEV Video: Selecting Market Variables

Because the video-animation is intended to be used within various shopping centres across Canada, *geographical segmentation* would be useful in determining which regions of the country would have the most (and/or the least) receptive groups to the medium.

Demographic segmentation would be appropriate to identify the most (and/or least) receptive markets for the video; being age, life cycle stage, and gender the only worthwhile factors. Identifying the first two would be important in order to distinguish which age groups would connect with the innovative subject matter and medium. These factors would also help evaluate the appropriateness of use of both verbal and visual languages. Furthermore, obtaining gender information would be useful to determine whether males and females are equally (or non-equally) receptive.

Socio-economic segmentation would aid in identifying social classes and

⁴⁰ Wells, William. 1989. *Advertising, Principles and Practice*. Englewood Cliffs, NJ: Prentice-Hall Inc., p. 131.

⁴¹ Ibid.

⁴² Ibid.

their components: income, occupation and educational background(s) of target group(s).

Geodemographic segmentation combines the three above segmentation variables studying their interaction. This would help determine which combination of factors is more appropriate for our selected medium.

Usage segmentation could be useful too, because it could reveal which market segments would watch (use) and/or not watch (not use) the video-animation as a communication media.

Benefit segmentation would also be appropriate to use since it could help devise what different segments “seek” in the medium. For example, while some groups might see video-animation as a “hot” new, time-effective, creative toy, others might think it’s just a cold and mechanical tool.

Finally, obtaining data about a market by employing *psychographic segmentation* would reveal which market group(s) would respond positively (or negatively) to the medium. Grouping people according to differences in attitudes, interests and opinions will definitely aid in defining the targeting segments.

Thus, the seven market segmentation variables would be appropriate in determining where the most receptive groups are, what their age is and why they would be receptive to the video-animation.

HEV's: Selecting Market Variables

The following selection of variables that are classified as appropriate for finding which market segments could be interested in supporting HEV's, is based on the assumption that Hybrid Electric Vehicles will be mass-produced sometime in the not so distant future.

Geographic segmentation would be appropriate because it could aid in finding prospective groups concentrated in specific areas, leading to variations in demand for HEV's. For instance, long distance mobility, population density, and extremely cold temperatures could be indicators of places without a future for hybrids since their batteries would either have to be recharged more than once a day, which in turn would considerably reduce battery life, or batteries may freeze at extremely low temperatures. The study of urban, suburban and rural areas would provide useful data as to which of the three has viable markets.

Demographic segmentation would be very useful as well because it could assess age, life cycle stage, gender and size of interested markets. For instance, knowing if the target groups are either married with children or single, through marketing research, would aid engineers build either HEV family or sport cars. Likewise, knowing if the target markets are either 25 year olds or 53, would help advertisers know precisely which audience segment(s) to target when creating advertisements. Knowing demographic variables would maximize many marketing opportunities for HEV's.

Usage segmentation could only be used after the vehicle has been in the market for a certain period of time since it would be impossible to find out which markets are heavy users beforehand.

Benefit segmentation could definitely identify market segments by grouping differences in benefits each group would seek in an HEV. For instance, while some might be pro-environment oriented and concerned with ecological hazards, others may be concerned with social approval, price benefits (if any), etc. Because benefit segments are based on the reasons why consumers buy, this technique is closely related to psychographic and product usage bases. In order to generate the data needed, methods such as personal interviews, focus groups, mail surveys, and other techniques need to be used.

Finally, *psychographic segmentation* would be a key determinant in defining market segments because one's choice of a car is strongly connected with one's psychological profile. On the basis of what each market segment likes to do, how they spend their leisure time and how they choose to spend their disposable income, marketers would be able to select and emphasize those features of the Hybrid that fit in with a target audience personality and life-style.

Out of the marketing segmentation categories discussed earlier in the overview, only *usage segmentation* turns out to be irrelevant for the intended objective of the HEV's promotion. The remaining segmentation strategies, though, are necessary indeed, either individually or in a combined form. Every piece of information which can be obtained by analyzing each segmentation would contribute to the development of thorough and useful target market profiles.

Market Targeting

After having developed a market segmentation scheme, the next step is to select among the market segments, the particular targets which are meant to be reached. "Target marketing is the process of developing measures of profitability and the selection of attractive market segments."⁴³

The target audience of the video-animation as a communication medium, is not necessarily the same public who would be interested in supporting (or purchasing) Hybrid Electric Vehicles. Therefore, it is necessary to define each target market separately.

HEV Video: Target Audience

The video-animation is intended to be used in three sequential ways: Firstly, the video will be shown to specific groups (people from industry and government officials) in order to gain government and industrial support and financial assistance, to promote interdisciplinary research projects, and to develop innovative project grants for industry aimed at fostering the production of environmentally friendly vehicles. Secondly, it will also be shown to the press in order to gain favourable publicity, attract people's attention and increase the projects' credibility. Thirdly, but most importantly, the video will be shown as part of the exhibition anticipated to travel with the HEV car in a tour across Canada in order to promote the potential benefit of Hybrid Electric Vehicles among the general public.

Based on the categories discussed in the overview, the specific groups that the video is intended to reach are: youths (twens and teens), and young adults (college/university students) on the one hand, and Achievers or Actualizers (people from business and government) on the other. They are all either in middle or upper social class; educational background being the best determinant of the degree of understanding and concern each group has towards environmental issues.

Naturally, these two target audiences have different concerns, attitudes, values, etc., so they would be receptive to the video-animation in different ways. However, the video will be designed to appeal both: the young, partly on the basis of the aesthetic elements (color, dynamic na-

43
Michman, Ronald D. 1991.
Lifestyle Market Segmentation.
New York: Praeger Publishers.,
p. 49.

ture of the medium, language, visual style and soundtrack) and partly on the basis of the novelty of the product. Government and business people will be reached through a clear and direct content in connection with the environmental advantages of the vehicle.

The video is aiming at the North American youth market for three reasons: First, because by targeting the young one is working on the future. Tweens and teens are important markets because many consumption patterns are formed at this time and continue later in life. They are potential consumers who will sometime in the near future choose between a conventional car and a Hybrid Electric Vehicle. Second, given that the objective of the video is to promote and educate “the public” about HEV’s, teenagers’ potential role as influencers upon their peers’ and parents consumption decisions, turn them into a meaningful target to be reached. “One study found that teenagers routinely overestimated their influence, reflecting in part their concerns with a particular decision such as the family automobile or vacation. However, adults may be unaware of the quality of persuasion by teenagers in the decision process.”⁴⁴ And third, because the latest technological developments (including high-tech innovations) to a great extent define the youth subculture.

The youth market can be divided as follows:

SEGMENT I: Tweens (Ages 9-13). The tweens congregate at the local “mecca” (the shopping mall). They are interested in fashion, music, toys and in high-tech electronics.

SEGMENT II: Teens (Ages 14-19). They spend most of their money on themselves immediately. They aren’t inclined to postpone purchasing gratification. Although, according to Ronald D. Michman’s U.S market segmentation research, “future teenagers might be able to purchase luxury-class goods. This situation is made possible by increased job opportunities for teenagers. At least 25% of senior high school boys and girls averaged more than 20 hrs. of work a week during the school year.”⁴⁵ The teenager’s economic profile seems to be one of increasing affluence and therefore of an increasing ability to satisfy their consumption desires.

Michman further divides teenagers into four attitudinal (psychographic) market segments, all of which would be attracted to the HEV exhibit and video display:

1) *Socially Driven* market segment: “This market segment has a greater amount of disposable income than any other teen group...They have little regard for price...Apparel, electronics, and automobiles that meet peer ap-

44
Michman, Ronald D. 1991.
Lifestyle Market Segmentation.
New York: Praeger Publishers.,
p. 97.

45
Ibid., pg., 96.

proval are in demand by the market segment.

2) *Diversely Motivated*: This group is the most cultured of the four market segments and has a wide range of interests. This group might include politically conscious teenagers who favor listening to the Irish rock band U2.

3) *Socially Introverted*: This market segment prefers solitary activities and spends money on products and services for use in these pursuits. Electronic goods such as personal computers can be marketed to this group since they meet their need for isolation.

4) *Sports Oriented*: "This market segment represents the largest market of the four teenage groups for sports and home video equipment."⁴⁶

The reasons why these segments would be attracted to the video-animation will be discussed later.

Today, this young subculture could be described as: affluent (discretionary income of over \$50 billion)⁴⁷ outer-directed (choice of activities, friends, and "looks" are crucial to social acceptance), determined experiencers (action oriented, in search for their "new identity" they are willing to "explore the world"), and "influential" upon peers and family values. They have even been labeled by a market research firm "Skippies"-School Kids with Income and Purchasing Power!⁴⁸

SEGMENT III: College/University students aged 19-24. They would also be receptive to the innovative HEV concept and medium, since this group is a TV generation (they are more likely to watch television after midnight). And perhaps they are the heaviest users of special interest magazines with more pictures than text. In these aspects, they are very much related to the teen market. They don't read newspapers much, except for their college paper. "...about 90% of students read their college paper at least one day a week..."⁴⁹ They are also skeptical space-agers, experientials, I-Am-Me's whose values were influenced by computers, divorced and single families, energy and environmental crises, and other social characteristics of the last few years. "They feel they're inheriting an unsound economic and political system that is no longer youth focused."⁵⁰

While many might have financial instability after moving away from their parents' home, others may have "\$200 per month to spend [after

⁴⁶
Ibid., p. 99.

⁴⁷
Solomon, Michael R. 1992.
Consumer Behaviour: Buying, Having, and Being.
Needham Heights, MA: Allyn
and Bacon., p. 448.

⁴⁸
Ibid., p. 449.

⁴⁹
Ibid., p. 451.

⁵⁰
Journal: Advertising Age.
March 22, 1993., p. 23.

paying for books, board and tuition]." ⁵¹ The majority could be classified as action oriented, socially and environmentally concerned, inner-directed, and materialistic (more than it admits).

HEV's: Target Audience

From the standpoint that HEV's can be mass-produced, as described earlier in section A, target markets for Hybrid Electric Vehicles could broadly fall in two categories: One would include segments who would support the idea of HEV's, but would be unable to purchase a Hybrid due to their low-income. The other group would contain targets with higher sources of income and purchasing power. Both markets would be at the upper and middle class ends; educated, health/safety concerned who would demand better control of the environment.

The first category --interested but price sensitive-- would include the outer-directed: socially driven, diversely motivated, socially introverted and sports oriented tween and teens. It would also comprise the inner-directed: Experientials, I-Am-Me's and Socially Conscious young adult market. Tween and teens, and college/university students would be potential future consumers.

The second category would comprise the outer-directed emulators and achievers; the inner directed: societally conscious; and the integrated adults aged 27-54. Although the first category may have the same psychographic profiles as the segments in the second, they differ because the young don't have the income.

While the adult emulators such as the so-called New Collars, would be good customers for Hybrid Electric "muscle" cars, the adult achievers or Yuppies would go for a Hybrid Electric "luxury" car, and the socially conscious (either the True Blue Greens or the Die-hard Greener than Greens) would also buy a Hybrid, but this will more likely be due to its technical superiority --electric-- rather than its status.

According to some market researchers, the IMPs (Inner Motivated People) will most likely be a major segment by the year 2000. Their profile is a combination of affluent, individualistic, inner directed, and integrated. "IMPs don't arrange their leisure activities around airings of 'Lifestyles of the Rich and Famous.' They'd buy an Armani suit even if the label said Sam Glick...IMPs march to the beat of their own conga. Go

51
Michman, Ronald D. 1991.
Lifestyle Market Segmentation.
New York: Praeger Publishers.,
p. 41.

where they please. Buy what they want. And experiment with new things.”⁵² This subculture would definitely be a potential HEV target audience. (Advertisers would have to emphasize the quality of technology and design in an HEV rather than its status).

The identification of these market profiles --for the HEV video and for the vehicle-- will be extremely useful in two ways:

- 1) They will determine what visual and verbal language is to be employed in the video.
- 2) They will determine which media vehicles would best reach these target segments.

52
Solomon, Michael R. 1992. *Consumer Behavior*. Needham Heights, MA: Allyn and Bacon, p. 508.

MARKET POSITIONING

After having identified market segments first and target markets second, the third step in the market segmentation process is *market positioning*. “Positioning is the process of distinguishing a company or product from competitors along such real dimensions as product qualities or values that are meaningful to customers.”⁵³ That is, a product or service’s “position,” is the place it occupies in the minds of target audiences in relation to competing products or services. Positioning aids advertising, product packaging, public relations and other promotional strategies in the design of a clearly-defined image. This, in turn, enables consumers to understand and evaluate what the company (or non-profit organization) is trying to convey, in contrast to other competitors in the marketplace.

Positioning Strategies

There are several positioning strategies a marketer, advertiser or designer can follow.⁵⁴ Six of these are briefly discussed here:

1. *Positioning by attribute* is to set the product (tangible or abstract) apart by the specific features it offers (e.g., performance, high quality).
2. *Positioning by benefits* is to differentiate the product by the needs it fills (e.g., reduces cavities, tastes good).
3. *Positioning with respect to use or application* captures the product according to its utility (e.g., snack food for the morning).
4. *Positioning with respect to a competitor* is to position a product against a competitor (e.g., Safeway vs. Superstore).
5. *Positioning away from competitors* is to position the product opposite to its competitors (e.g., 7-Up: the un-cola).
6. *Positioning with respect to a product class* means positioning itself against another product that belongs to a different category (e.g., LRT against automobiles).

In many cases, marketers combine some of these strategies. Effectiveness or success of a product or company’s positioning strategy is dependant upon its ability to measure the needs of the target market and analyze the position of its competition.

Three steps are involved in the positioning strategy: First, discovering possible competitive advantage(s) on which one can build a position. Sec-

53
Michman, Ronald D. 1991.
Lifestyle Market Segmentation.
New York: Praeger Publishers.,
p. 65.

54
Kotler, Philip. 1988.
*Marketing Management: Analysis,
Planning, Implementation, and
Control*. (6th. edition) Engle-
wood Cliffs, NJ: Prentice-Hall,
Inc., p. 310; Kotler, Philip, and
Armstrong, Gary. 1990.
Marketing: An Introduction.
(2nd. edition) Englewood Cliffs,
NJ: Prentice-Hall, Inc., p. 219;
Rothschild, Michael L. 1987.
*Marketing Communications: From
Fundamentals to Strategies*.
Lexington, MA and Toronto,
Canada: D.C. Heath and Com-
pany., p. 161.

ond, selecting the proper competitive advantage(s), and third, communicating the chosen position to the market. (Competitive advantage can be defined as the advantage(s) a product or company has over competitors which enables it to be differentiated). Ideally, marketers should find a competitive advantage which is hard to be copied by others.

“When setting its positioning strategy, the company should look at its competitive strengths and weaknesses as compared with those of competitors and select a position in which it can attain a strong competitive advantage.”⁵⁵

HEV's: Positioning Strategy

In developing a position for Hybrid Electric Vehicles, it is necessary to identify their range of benefits, attributes and drawbacks (See HEV profile, section A). The most competitive advantage in terms of attributes is that it's a vehicle powered by a combination of gasoline and electricity --a *hybrid*. High performance, comfort or whatever attributes it may have, they still won't be unique enough that could set HEV's apart from other automobiles. Besides, too many vehicles are already positioned in terms of aesthetic or functional qualities. Being that “hybrid” is the most significant attribute, the main benefit, consequently, is that it's an environmentally friendly vehicle.

Clearly, the positioning strategy that would best communicate the theme of “green-vehicle” is through a positioning of benefit. The other strategies may also be useful as long as they are combined with the primary HEV positioning strategy so as to avoid any inconsistency in the intended message to be conveyed.

55
Kotler, Philip, and Armstrong,
Gary. 1990. *Marketing: An Intro-
duction*. (2nd. edition) Engle-
wood Cliffs, NJ: Prentice-Hall,
Inc., p. 220.

STRATEGY PLATFORM FOR CAMPAIGN

HEV's Communicational Framework

In the process of planning a promotional campaign for HEV's, one must develop a message (through the selected positioning strategy) that will create concern for the environment and desire for the vehicle in prospective target markets. This communicational task involves solving problems that relate to semantic, syntactic and pragmatic dimensions. The meaning of the message (semantic), the relationship between the visual and verbal (syntactic), and the way the audience interprets what is said (pragmatic), all articulate in the process of communication. Understanding how communication works applied to the HEV promotion will aid in the development of message and media strategies.

A number of theories have been developed to explain the process of communication. Diagram 4, shown below, is a combination of different authors' perspectives which reflect what occurs when communication takes place.⁵⁶

A complete communication consists of: *Sender and receiver* (major parties in a communication); *message and media* (major communication tools); *encoding, decoding, response* and *feedback* (major communication functions); and *noise* (any distortion of intended meaning).

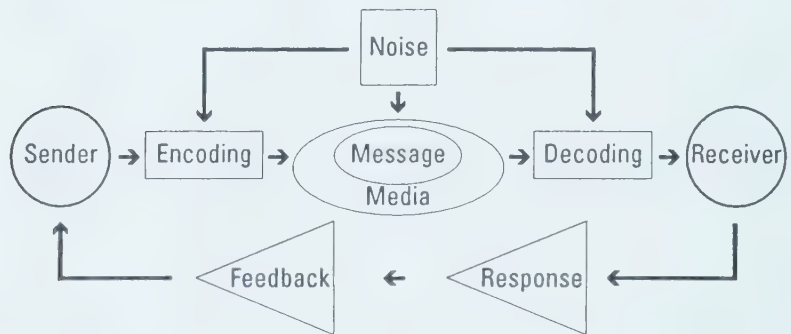


Figure 4

These elements are defined and applied to the HEV campaign as:

Sender: The individual or organization sending the message: the University of Alberta HEV Project. The sender must define its objectives and image.

Encoding: The process of converting a message into symbols that will allow it to be transmitted. The U of A HEV Project assembles words and images into advertisements that will raise environmental consciousness and support for HEV's. The form of the message(s) aimed at the target market should be based on an analysis of that market's codes.

Message: The set of symbols that the sender transmits: the actual HEV advertisements. The structure of the message has a big effect on how it is perceived. Should the message for instance, emphasize the negative consequences of air pollution, should it provoke fear, should it be humorous? Should both sides of the argument be presented?

Media: The communication channels through which the message moves from the source to the audience: in this case, video-animation, brochures, billboard, posters, magazine and newspaper ads the HEV Project selects.

Decoding: The process by which the receiver assigns meaning(s) to the encoded symbols: the target segments see the ads and/or video-animation and interpret the verbal and visual language they contain, thus arriving at the meaning of the message.

Receiver: The individual or organization receiving the message: the target markets who see the ads and/or watch the video-animation.

Response: The reactions of the receiver after being exposed to the message: both positive and negative reactions towards the campaign and HEV's could result.

Feedback: The part of the receiver's response communicated back to the sender. After implementing the HEV campaign, research could indicate whether the public is receptive or not to the communicational material. This could be determined by knowing the reaction of the public through opinion polls.

Noise: The extraneous factors that can interfere with the reception of the message and distort the intended meaning. The use of inappropriate words or images, poor printing quality or TV reception, or someone distracted by others while seeing the ad or watching the video-animation.

In summary, this model points out that the University of Alberta HEV Project's marketers or designers should know what *audiences* to reach. They should also *encode* the message taking into account how the target audience would *decode* them. Then they should send the *message* through the *mediums* that reach the intended audiences. Finally, they

should also develop *feedback* channels so that they can *evaluate* the target market's *responses* to the environmental-oriented message.

Provided that the HEV's target markets have already been identified and described previously, and that collecting feedback will not be possible at this point due to time constraints, the communication decisions proposed in this thesis are: creating a message one wishes to communicate to the audience segments; and choosing the media through which to send the message.

CREATING A MESSAGE

According to a model that explains how advertising works, an effective message should "get Attention, hold Interest, arouse Desire and obtain Action." (known as AIDA model).⁵⁷ Thus, it points out that "there can be no interest in the product if the ad was not noticed in the first place, no desire to buy the product if there was no interest, and no purchase of the product if there was no desire to own the product."⁵⁸ Although consumers don't necessarily follow this sequence, the model suggests the qualities a message should have. Basically, it should be specific, interesting, believable, simple, and relevant.

In creating a message, one has to figure out what to say (*message content*) and how to say it logically (*message structure*). At this stage, where one must find an appropriate use of language, one becomes participant of the rhetorical form of communication. As Hanno Ehse wrote: "Broadly defined, *rhetoric* is the art that deals with the use of spoken or written discourse. Its object is eloquence, which is defined as effective speech. According to Aristotle, its concern is with 'discovering all the available means of persuasion in any given situation' either to inform (rational appeal), to delight and win over (ethical appeal) or to move (emotional appeal) an audience."⁵⁹

Message Content

Rational appeal relates to reasoned, logical arguments that stress a product's benefits (e.g., quality, performance, reliability and other attributes); *emotional appeal* attempts to provoke either negative or positive

⁵⁷ Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction*. (2nd. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc., p. 387.

⁵⁸ Dolan, Roberts. 1991. *Strategic Marketing Management*. Boston, MA: Harvard Business School Publications., p. 394.

⁵⁹ Ehse, Hanno H.J. 1987. *Design Papers 4: Design & Rhetoric: An Analysis of Theatre Posters*. Nova Scotia: Nova Scotia College of Art and Design., p. 5.

emotions (e.g., fear, guilt, humor, love and other feelings); and *ethical appeal* is directed to the audience's sense of moral and aesthetic values (e.g., continuing education, pollution control, crime prevention, and other social causes).

Message Structure

Determining the message structure involves decisions concerning the following: *conclusion drawing*, *one or two-sided arguments*, and *order of presentation*. The first, *conclusion drawing*, relates to whether an argument should include conclusions or whether it should be left to the audience to decide. "The answer depends upon the consumers' motivation to process the ad and the complexity of the arguments."⁶⁰ So if the audience relates to the message and if it's not complex, then they'll pay attention to the ad, allowing it to be open-ended. In contrast, if consumers don't relate to the message and the arguments are hard to follow, then the ad should present conclusions.⁶¹ The second message-structure issue is whether the ad should present both positive and negative information. Research has indicated that two-sided ads are very effective, especially with well-educated audiences.⁶² The third issue raises the question of whether one should present the strongest arguments first or last. This decision is dependent upon subject matter and on whether it's a one-sided or a two-sided argument. If for example, the argument contradicts general opinion (strong) and it's two-sided, then it should probably be best to present the strongest argument first to get attention.

SELECTING MEDIA

Types of Communication Channels

One can select from a wide range of communications media, or channels, to convey one's message. In choosing among the media, two factors are especially significant: First, it is necessary to ensure that the medium chosen will actually reach the intended target audience; and second, that it be appropriate for the message conveyed. Two broad types of media, personal and nonpersonal, are classified as follows:

60
Solomon, Michael R. 1992. *Consumer Behaviour: Buying, Having, and Being*. Needham Heights, MA: Allyn and Bacon., p. 178.

61
Kotler, Philip. 1988. *Marketing Management: Analysis, Planning, Implementation, and Control*. (6th. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc., p. 599.

62
Idem., p. 600.

Personal communication channels are “channels through which two or more people communicate directly with each other, including face-to-face, person-to-audience, over the telephone, or through mail.”⁶³ Word-of-mouth and friend’s recommendations are sources especially used in cases of “high-risk” purchases such as automobiles and computer equipment.

Nonpersonal communication channels are “media that carry messages without personal contact or feedback, including mass and selective media [print: newspapers, magazines, direct mail; broadcast: radio, television; display: billboards, signs, posters], atmospheres [e.g., lawyers’ offices and banks] and events [press conferences, grand openings, public tours].”⁶⁴

There isn’t one best medium. It varies according to message, product, service or idea to be communicated and target audience to be reached. If a *mix of media* is chosen, aimed to reach a specific target market, one has to carefully design a consistent message content and structure, and maintain unity in terms of color(s) and typeface(s) across all media in order to obtain the highest impact out of the promotional effort.

HEV’s MESSAGE & MEDIA STRATEGIES

After discussing message and media selection criteria, it is important to stress that no matter how excellent the HEV may be, its success in the marketplace could only be achieved when its positioning is communicated effectively to the intended receiver(s) of the message. Introducing a new product such as Hybrid Electric Vehicles, would involve two major tasks: first, creating awareness that it is *now* possible to do something that was not previously feasible by means of announcing the HEV’s benefit -- environmentally friendly --relative to other competitors of the same category; and second, changing people’s attitudes towards conventional automobiles.

With this in mind, and with the objective of confronting the communication problem in different, alternative ways, I have selected three vehicle target markets and alternative positioning strategies. The following charts (A, B, C) in the pages that follow, synthesize three messages matched with respective specific audiences.

63
Kotler, Philip, and Armstrong, Gary. 1990. *Marketing: An Introduction*. (2nd. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc., pg., 389.

64
Ibid.

Slogan: *When comfort starts from outside and not from within.*

Appeal: Rational.

Target Audience: Emulators and Achievers.

Age: 26-54.

Profile: Materialistic, affluent, highly educated professional.

Ads positioning strategy: Positioning by benefit and away from competitors.

Media: Outdoor billboards, specialized interest magazines.

Image: From a driver's perspective, a green landscape is seen through the interior front windshield of a Hybrid. The front interior of the vehicle, dashboard and windshield, are just but framing the picture; dashboard details are unnoticeable, they are blacked out. The green landscape is contrasted to the black frame. The scenery is so green, almost unreal, it transmits clean air and tranquility (no engines puffing exhaust fumes). The vehicle is placed on a second level, the environment comes first.

Text: Reflects the Emulators and Achievers' point of view: comfort, luxury and what other people think is right (surroundings), are of top most importance. Writing in the second person helps draw this target audience into the message. Describing the high efficiency of the HEV by means of technical information, creates support for the vehicle among these well-informed consumers.

Message Rationale: The slogan was created as a result of the combination between the environmental benefit position of Hybrid Electric Vehicles and the profile of the outer directed emulators and achievers. The message is structured subliminally: on the one hand, the word "comfort" is generally used as an advantage (in automobile ads); it is a key word which connotes materialism. Consequently, the word comfort is an attention grabber for the comfort-loving emulators and achievers. On the other hand, the slogan reflects the personality of the people in this target group, who conduct their lives in response to signals from others. In other words, from *outside* and not from *within*. Another subliminal message found in this ad, is the subjective position of the consumer, as if he or she were already inside the vehicle.

The image and slogan are dependent of each other: one wouldn't work without the other. Together, they emphasize the benefit of the product.

Slogan: *Built for the Natural Environment.*

Appeal: Emotional.

Target Audience: Socially conscious (inner-directed): Greenback Greens and Die-hard Greener than Greens.

Age: 45-54.

Profile: Well educated, support environmental and conservation causes; innovative, active and well informed.

Ads positioning strategy: Positioning by benefit and positioning with respect to a competitor.

Media: Newspapers and special interest magazines.

Image: Extreme long shot of a green landscape. There are green mountains all over, contoured by a brown-earthy road. Only at a far distance, can the viewer spot a tiny vehicle, an HEV, advancing through the road.

Text: Concise and to the point. Details about the range and performance are omitted since the target audience prefers factual information about the vehicle's environmental impact. In this respect, comparisons to a conventional car, help build the "green" benefit of an HEV. The closing phrase "A conscious car for conscious people" matches the vehicle to this group of environmentally-concerned consumers.

Message Rationale: The positioning strategy of the Hybrid is identified with respect to another vehicle company (NISSAN: "Built for the Human Race"). By altering the meaning of the existing company's ad, the HEV is positioned by its primary benefit --environmentally friendly. Again, as in the previous ad, the slogan and image place the vehicle in a second level. However, there is less "dialogue" between slogan and image compared to the other ad, where the slogan and the image were indispensable to each other. Here, the slogan can be understood by itself (and to a certain degree the image by itself is clear, too), although the slogan is strengthened by the image. In this ad, the message is more direct; the viewer requires less time than in the previous ad to understand the message.

Slogan: *Pollution. If this message is unclear, we give up.*

Appeal: Ethical.

Target Audience: Outer-directed, experiencers: older tweens, teenagers, college/university students.

Age: 12-22.

Profile: Future potential consumers: tweens and teens: affluent, outer-directed, experiencers, influential, educated, sensitive or slightly concerned about the environment; and college/university: action oriented, socially and environmentally conscious, inner-directed.

Ads positioning strategy: Positioning by attribute, benefit and away from competitors.

Media: Posters, billboards, special interest magazines and school newspapers.

Image: Typographic; the word 'Pollution' is written in a sans-serif (Helvetica or Futura), bold, extended typeface, over a plain background. All the letters, except for the first 'o', the 'u' and the 't', are gray and blurry, as if they had smog. The other three letters which spell 'out' are outlined and clear. Hence, 'Pollution out!' The rest of the slogan, is written in a much smaller type size, in one line, below the first message.

Text: For billboard: due to the nature of the media, text has to be limited. While the typographic image speaks by itself, two brief facts about the vehicle's benefit "97% less polluting. 93% less noise" add credibility.

Message Rationale: This ad, aimed at reaching the young, communicates using the straightforward, no round-about, simple, quick language this subculture understands and appreciates. Capturing the message effortlessly is almost a rule when one is talking to the "Just Do It" generation. The typographic play **Pollution** (Pollution out) transmits the idea clearly and directly just like hearing a scream, an imperative. The fact that there are two possible readings, "pollution out" or "out pollution", doesn't alter the meaning of the message. Either way still has visual impact. The slogan "If this message is unclear, we give up" has two purposes: first, it tries to alert the viewer, as if it were the last warning, the last emergency call; and second, it serves as a loop because the viewer will surely look at the message twice to ascertain he or she understood the message conveyed, before someone (Hybrid Electric Vehicle manufacturers) give up.

HEV VIDEO-ANIMATION

Communicational Medium

Computer animation emerged in the 1960's, although its greatest growth has occurred in the last five years. It is an increasingly powerful tool used by scientists and artists to describe, interact and communicate in areas such as medical imaging, education, virtual reality, entertainment and art. The animator may play with and break the rules of physical properties (i.e., weight, volume, gravity, elasticity) or perceptual properties (i.e., shape, shading, texture, atmospheric effects) of materials, or even contradict Newton's laws of physical motion. Its own laws is what gives computer generated imagery its distinguishing feature: illusionism.

Three dimensional animation creates synthetic worlds so photo-realistic, one feels one could almost touch them. Today, computer animation signifies, like Hybrid Electric Vehicles, high-tech and technological progress.

"In the coming decade, many new 3D applications will be developed for graphics, and by the year 2000, consumer devices will routinely have 3D realistic graphics capability."⁶⁵

Objectives

In contrast to the HEV's advertising campaign, the video-animation captures the University of Alberta's HEV the way it is at this moment, with all its drawbacks (which will become less critical as technology advances and mass production develops).

The objectives of the video-animation are listed below in order of importance:

1. Promote the potential benefit --environmental-- of Hybrid Electric Vehicles.
2. Inform about the University of Alberta's unique interdisciplinary team project.
3. Concisely describe technical details of the operation of the vehicle.
4. Gain public, industry and government support for HEV's.

⁶⁵
Clark, Jim. May 1992. *Byte Magazine*, p. 153.

Delivery Context

The video-animation is intended to be shown, in conjunction with other material, in the HEV Project exhibition displays within various high schools and shopping centres across Canada. The video's delivery context does not allow for a long duration. Thus, it is intended to last 6 minutes or less. In addition, a long video would be inadequate because in today's fast-paced times, people in general prefer receiving brief and concise information. The public tends to have no particular interest in the technicalities of things but rather in a general orientation. "There are plenty of studies in communications research which scientifically prove the advantages of not straining the attention span. Naturally the younger a person, the shorter the span of time during which one can count on definite attention to the screen image."⁶⁶

Visual Language And Tone

Due to the heterogeneous groups the video is primarily trying to reach --youth and young adults, industry and government executives, and the press-- the video-animation has a simple and yet mature language (both visually and verbally). The contents presented are "balanced" so that there isn't too much information or lack of it, which in either case would push the viewer away.

The visual language is "quiet" in the sense that it is influenced by the concept of the product: an environmentally friendly vehicle. No exciting photographic cuts nor speed blurs (most commonly used in television commercials to promote today's automobile) are used.

Although the project is innovative, the information cannot be presented in a futuristic way because it would mislead the viewer to think that we are far from seeing functional Hybrid Electric Vehicles. Thus, emphasis has to be placed on the fact that given the fast pace of technological development and market and legislation incentives, HEV's are close to being mass-produced.

Since the video centers on the promotion of a *potential* and *feasible* idea, as opposed to the promotion of a marketable product, the tone is educational and informative. The overall message content is presented in a combined rational-ethical mode: rational because there's information

66
Driscoll, John P. 1983. *Communicating on Film*. Champaign, Illinois: Supes Publishing Company., p. 35.

about the vehicle's driving range, performance, battery life, seating capacity and other features; and ethical because the theme revolves around reducing urban air pollution.

Sequence Structuring: Form & Content

The video-animation is designed in accordance with the two target audiences identified earlier —youth and young adults, business and government people. On the one hand, the imagery in the video-animation combines colorful 3D computer animated sequences which would be most appealing to the action-oriented, experientials and computer literate, young segments. Although there's no action in the video-animation as there is in any Stallone's or Schwarzenegger's movies, the innovative medium would attract this diversely motivated subculture through its images that look almost real; through the camera and/or object movements that could "take" them into imaginary places; through the simple language that explains the technical components of the "awesome" car, and through the synchronized electronic soundtrack. On the other hand, the video-animation provides clear and concise information about the objectives behind the HEV Project, combined with live-action video, which would be more interesting to business and government segments.

There is a total of four "high peaks", or points that intensify the attention of the viewer. There are also nine sequences in total (each sequence has a unifying idea) which present the information in a linear way:

The first sequence (shots 1-14; time duration 25") presents the major team sponsors in a dynamic form: names rotate, come and go in all four directions. This breaks the traditional rule of scrolling the sponsors at the end. This video places them at the beginning because: 1) The video gains importance, 2) Although they are just names, they're moving— they grasp the audience's attention. Business and government people would be more concerned about the names that appear on screen while the young would care more about the rotations, ins and outs.

The second sequence (shots 15-31; 28") defines the problem. As stated by the voice over, "... initiated the Hybrid Electric Vehicle Challenge as a result of the worldwide growing concern for the environment." Both segments —sensitive to, and/or aware of, the environmental crisis— would respond. Visual rhythm is dominant since the oval shape of Ford's logo is

repeated a second time but as a Mollweide projection map which then turns into a globe. The flow Ford /globe /North America /Canada/ Edmonton/ University of Alberta's crest, is accomplished smoothly. In addition, two kinds of animation effects are employed: morphing (logo to globe) and transparency (University of Alberta type, so the overlapping of blue type and golden crest convey the university colors). Again, both audiences would be receptive: the adult group more because of its geographic-informational content; the young because of the special effects.

The third sequence (shots 32-42; 13") reveals the vehicle (high peak). As well, it serves as a bridge between the crest and the HEV Project logo. The camera takes the viewer to a space (lower strip of crest) that only exists in animation. Again the transitions: crest /car on crest /car on HEV logo /and logo, flow progressively. This sequence would be especially attractive to the young group, since they would feel entertained.

The fourth sequence (shots 43-50; 13") uses live action to add a "human element" to the video. There is more credibility once the team members are "personally" met. The viewer becomes a participant in the interdisciplinary working environments through the "dolly-in or out" shots which move towards, away, from, or follow someone across the room. Close-ups are necessary to take one into a more intimate relationship with the people on the screen. Their natural movements, as well, provide information about what they think and feel. This sequence would attract business and government people because of their responsibility toward educational institutions. It would also attract young adults since it reveals an atmosphere they either live every day or will soon become part of it.

The fifth sequence (shots 51-57; 53") clearly shows that computer animation is an effective communication medium for instructing and visualizing the inexplicable or technical/scientific complexities. This sequence is characterized by the juxtaposition of a live action blackboard and an animated engine (high peak). The blackboard full of chalk sketches signify *project*, ideas that are being developed, but soon become a "reality" when the engine and batteries come out of the blackboard. This is the first time where technical details are presented. In addition, the two-sided argument presented indicates that the University of Alberta's HEV has removed the back seat in order to place the batteries, *but* if HEV's were mass-produced this wouldn't be the case. In order to keep the viewers' attention in this sequence, there is a combination of simple terminology, visually attractive images, and highly informative (yet entertaining from the teens per-

spective), content presentation.

The sixth sequence (shots 58-62; 25") challenges the viewer to understand the environmental problems (specifically, high levels of pollution and natural resources becoming scarce) and hopefully to take action in the solutions. "To significantly reduce urban air pollution, a large number of Hybrid Electric Vehicles would be needed." (voice-over).

The seventh sequence (shots 63-73; 43") , as did the fifth sequence, deals with concise technical and comprehensible information, this time regarding the HEV's range (and its respective modes: electric only, hybrid only, or a combined electric-hybrid mode), accompanied with graphically simple and visually attractive imagery. Following the advantages presented in the previous sequence, the first disadvantage is clearly stated: "However, today's purely electric vehicles cannot travel long distances..." (v.o.) This problem though, is soon refuted (twice) in order to reduce uncertainty about HEV's. First, "To extend the driving range to 500 kilometers the internal combustion engine can be switched on any time." (v.o.) Second, when the vehicle is in hybrid mode, it gives extra acceleration while recharging its electric batteries. Thus, the viewer understands that the whole point of HEV's is about an environmental benefit *and* advantage –the hybrid utilizes the best of each: the zero emissions in electric mode and the long range in gasoline mode.

The eighth sequence (shots 74-80; 18") gives the viewer another positive characteristic of the car (higher performance than a standard Escort wagon) through an action/entertainment-oriented sequence: a performance comparison race (high peak). "Its time of only 10"8 beats the standard Escort by almost a full second." (v.o.) It follows the common saying of "seeing is believing." The youth and young segments would be most receptive to this "car race" sequence (mostly the Sports Oriented teens) due to their attraction to action. In addition, it proves them that in terms of performance, the HEV is number one, a vehicle quality most wanted at this age.

The last sequence (shots 81-87; 56") begins with a clear two-sided argument: Canada already has the infrastructure for Hybrids *but* today, the HEV needs 6 to 8 hours to recharge its batteries. Showing the actual advancing car (through live action video) presents the HEV as an accomplishment both in terms of the competition launched by Ford and in terms of the feasibility of more environmentally friendly vehicles. The last four shots, characterized by their related circular motions (expressing joy

and cheerfulness), control the viewer's attention and eye movements from one shot to the next. Furthermore, the last two shots present the strongest arguments through an open ending (high peak). At this stage it's too early to know whether HEV's will in effect, be mass-produced. However, the final message that is communicated centers on the establishment of possibilities: this happened and this *can* be achieved *if* there is: 1) further technological development, 2) public, industry and government support, and 3) action!

It is important to point out that the events, described above, ideally, are duplicated or "mirrored" by sound. On the one hand *music* supports the images and creates unity of expression. It directly derives from the events, tone and intention of each sequence. The musical score doesn't call attention to itself. It is there to accelerate, intensify, enrich and punctuate in such a way that the viewers shouldn't be aware of it.

On the other hand, the *narration* communicates the ideas relative to the images which need explanation. The narration is concise and simple to understand. The vocabulary, as mentioned earlier, is appropriate for both youth and adults. The voice-over most suited for the video is one which combines trustworthiness, quasi-documentary, clear, serious, and instructive yet not condescending, student-like voice.

In sum, the video animation gains power to involve, influence, and instruct by a combination of form and content. The video aims at the youth and young adults, as well as the business and government people, through a linear progression of events.

Storyboard

As words describing pictures are seldom as effective as pictures describing pictures, it is necessary to employ the storyboard method for the planning of a video or a film. The story board presented at the end, sketched by Kyle Loranger, helped in planning the graphic continuity, making it possible to check the relationships between shots, sequences, and narration. "Storyboards serve two purposes: first, they allow a filmmaker to previsualize his ideas and refine them in the same way a writer develops ideas through successive drafts; secondly, they serve as the clearest language to communicate ideas to the entire production team."⁶⁷

BIBLIOGRAPHY

- Aaker, David, Batra, Rajeev, and Myers, John. 1992.
Advertising Management.
(4th. edition) Englewood Cliffs, NJ: Prentice Hall, Inc.
- Belch, George E., and Belch Michael A. 1990.
Introduction to Advertising and Promotion Management.
Homewood, IL; and Boston, MA: Richard D. Irwin, Inc.
- Bowersox, Donald and Cooper, Bixby. 1992.
Strategic Marketing Channel Management.
U.S.A.: Mc Graw-Hill.
- Chajet, Clive, and Shachtman, Tom. 1991.
Image by Design: From Corporate Vision to Business Reality.
Addison-Wesley Publishing Company, Inc.
- Chakrapani, Chuck, and Deal, Kenneth R. 1992.
Marketing Research: Methods and Canadian Practice.
Scarborough, Ontario: Prentice-Hall Canada Inc.
- Dolan, Roberts. 1991.
Strategic Marketing Management.
Boston, MA: Harvard Business School Publications.
- Driscoll, John P. 1983.
Communicating on Film.
Champaign, Illinois: Stipes Publishing Company.
- Ehshes, Hanno H.J. 1987.
*Design Papers 4: Design & Rhetoric: An Analysis
of Theatre Posters*.
Nova Scotia: Nova Scotia College of Art and Design.
- Engel James, Warshaw Martin, and Kinneer Thomas. 1991.
*Promotional Strategy: Managing the Marketing
Communications Process*.
Homewood, IL; and Boston, MA: Richard D. Irwin, Inc.

- Fine, Seymour H. 1990.
*Social Marketing: Promoting the Causes of Public
and Non-profit Agencies.*
Needham Heights, MA: Allyn and Bacon.
- Katz, Steven D. 1991.
Film Directing Shot by Shot: Visualizing from Concept to Screen.
Studio City, CA: Michael Wiese Productions;
and Stoneham, MA: Focal Press.
- Kotler, Philip. 1988.
*Marketing Management: Analysis, Planning, Implementation,
and Control.*
(6th. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Kotler, Philip, and Armstrong, Gary. 1990.
Marketing: An Introduction.
(2nd. edition) Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Manovich, Lev. 1991.
Design Issues.
Volume VIII, Number 1.
- Mehring, Margaret. 1990.
The Screenplay.
Stoneham, MA: Butterworth Publishers.
- Michman, Ronald D. 1991.
Lifestyle Market Segmentation.
New York: Praeger Publishers.
- Olins, Wally. 1992.
*Corporate Identity: Making Business Strategy Visible Through
Design.*
Great Britain: Thames and Hudson.
- Rothschild, Michael L. 1987.
Marketing Communications: From Fundamentals to Strategies.
Lexington, MA and Toronto, Canada: D.C. Heath
and Company.

Smith, Craig N., and Quelch, John A. 1993.

Ethics in Marketing.

Boston, MA: Richard D. Irwin.

Solomon, Michael R. 1992.

Consumer Behaviour: Buying, Having, and Being.

Needham Heights, MA: Allyn and Bacon.

Swain, Dwight V., and Swain, Joye R. 1988.

Film Scriptwriting: A Practical Manual.

(2nd. edition) Stoneham, MA: Butterworth Publishers.

Wells, W.; Burnett J., and Moriarty S. 1989.

Advertising: Principles and Practice.

Englewood Cliffs, NJ: Prentice-Hall, Inc.

Appendix I

LOGO PROCESS

HEV
Hybrid Electric Vehicle
Project

HEV
Hybrid Electric Vehicle
Project

HEV
Hybrid Electric Vehicle

HEV
Hybrid Electric Vehicle
Project

HEV
Hybrid Electric Vehicle

HEV
Hybrid Electric Vehicle
Project

HEV
Hybrid Electric Vehicle

HEV
Hybrid Electric Vehicle

HEV
Hybrid Electric Vehicle

HEV
Hybrid Electric Vehicle
UNIVERSITY OF ALBERTA

HEV
Hybrid Electric Vehicle
project

HEV
Hybrid Electric Vehicle
UNIVERSITY OF ALBERTA

HEV
Hybrid Electric Vehicle
UNIVERSITY OF ALBERTA

HEV
Hybrid Electric Vehicle
UNIVERSITY OF ALBERTA

HEV
Hybrid Electric Vehicle
UNIVERSITY OF ALBERTA

Appendix II

STORYBOARD



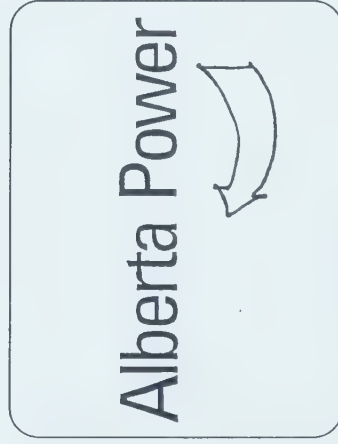
Shot : 1. CU **Medium :** C. A. **Time :** 0/3.5
Action : HEV logo appears in screen. Hold 3".
Commentary : The University of Alberta HEV Project...
Sound : Background music fades-in. Moderate tempo.



Shot : 2. CU **Medium :** C. A. **Time :** 3.5/5.5
Action : Logo compresses into a vertical line. First major sponsors' name appears as a vertical line centered in the screen. It rotates 90° cw...
Commentary : ...has been realized...
Sound : Rhythmic music accompanies type movements up to shot 14.



Shot : 3. CU **Medium :** C. A. **Time :** 5.5/7
Action : ...on a vertical axis (in 1.5") into first name.
Commentary : ...through the participation...
Sound : Idem.



Shot : 4. CU **Medium :** C. A. **Time :** 7/8
Action : Hold centered name for .5" and then rotate another 90°cw (in .5") until it's a vertical line again.
Commentary : ...and generosity of...
Sound : Idem.



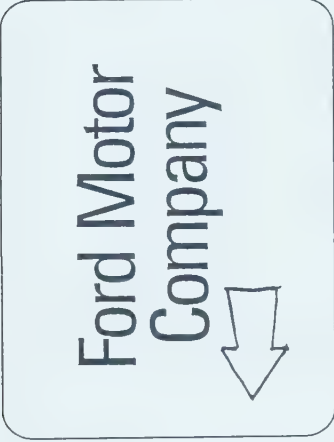
Shot : 5. CU **Medium :** C. A. **Time :** 8/10.5
Action : Line rotates 90°cw (in 1.5") into second name. Hold .5". Then name slides downwards (in .5") until it's out of the screen.
Commentary : ...these and many other...
Sound : Idem.



Shot : 6. CU **Medium :** C. A. **Time :** 10.5/12
Action : Third name appears from the top in 1.5" and...
Commentary : ...organizations.
Sound : Background music. Moderate tempo.



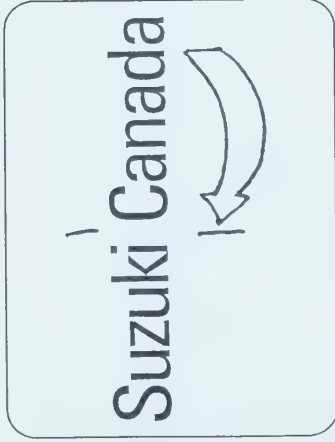
Shot : 7. CU **Medium :** C. A. **Time :** 12/13
Action : ...centers itself on screen. Hold .5".
 Name rotates 90° cw (in .5") in a vertical axis, becoming a line in center of screen.
Commentary : ---
Sound : Idem.



Shot : 8. CU **Medium :** C. A. **Time :** 13/15.5
Action : Line rotates 90°cw (in 1.5") into fourth name (hold .5") Name leaves frame through left in .5".
Commentary : ---
Sound : Idem.



Shot : 9. CU **Medium :** C. A. **Time :** 15.5/17
Action : Fifth name enters frame through right in 1.5" ...
Commentary : The project team is grateful to...
Sound : Idem.



Shot : 10. CU **Medium :** C. A. **Time :** 17/18
Action : ...and centers in screen. Hold .5".
 Name rotates 90°cw, in .5", becoming a vertical line.
Commentary : ...all these organizations...
Sound : Idem.



Shot : 11. CU **Med. :** C. A. **Time :** 18/20.5
Action : Line rotates 90°cw, in 1.5" into sixth name. Hold .5". Name rises upwards in .5". As it leaves frame,...
Commentary : ...and individuals who provided...
Sound : Idem.



Shot : 12. CU **Med. :** C. A. **Time :** 20.5/22
Action : ...seventh name enters screen through bottom in 1.5" ...
Commentary : ...a stimulating and...
Sound : Idem.

Energy, Mines
& Resources

Shot : 13. CU **Medium :** C. A. **Time :** 22/23

Action : ...and centers in screen. Hold .5". Name rotates 90° cw in .5", on a vertical axis, becoming a vertical line in center of screen.

Commentary : ...challenging working...

Sound : Idem.

University
of Alberta

Shot : 14. CU **Medium :** C. A. **Time :** 23/25.5

Action : Line rotates 90° cw in 1.5", into eighth name and fades-out in 1".

Commentary : ...environment.

Sound : Moderate tempo. Punctuate at 23.5/24.

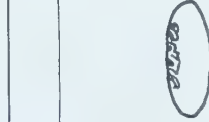
GRAY-IN

Shot : 15. XLS. **Medium :** C. A. **Time :** 25.5/27

Action : Ford's 3d logo (shape like zeppelin) appears distant in a horizontal position, centered in screen,...

Commentary : In 1991 the Ford...

Sound : Background music (tumbling noise) accelerates at 26.



Shot : 16. LS. **Medium :** C. A. **Time :** 27/29

Action : ...rolling forward moderately fast over a horizontal axis. One side reads Ford, the other, the HEV Challenge.

Commentary : ...Motor Company, the Society of Automotive...

Sound : Idem.



Shot : 17. CU. **Medium :** C. A. **Time :** 29/33

Action : It then comes to a sudden stop when logo covers width of screen, hold 4". Two names fade-in.

Commentary : ...Engineers International, and the United States Department of Energy...

Sound : Punctuate at 32/33.

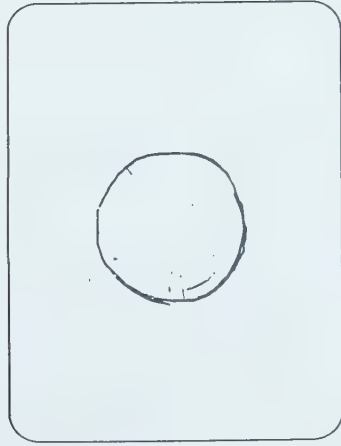


Shot : 18. MC **Medium :** C. A. **Time :** 33/34

Action : Background turns into a darker gray. Ford's 3d logotype gradually rotates...

Commentary : ...initiated the Hybrid...

Sound : Background rhythmic music. Moderate tempo.



Shot : 19. CU **Med.** : C. A. **Time :** 34/35.5

Action : ...180°ccw on a vertical axis.

Commentary : ...Electric Vehicle Challenge as...

Sound : Idem.

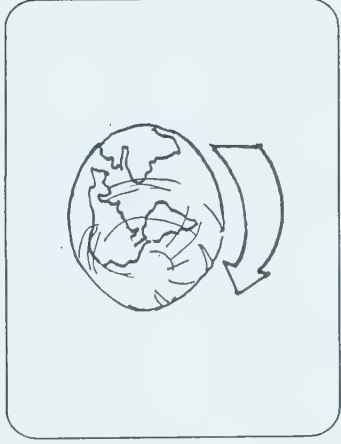


Shot : 22. CU **Medium** : C. A. **Time :** 38/39.5

Action : 3d oval gradually compresses into a globe. More stars appear.

Commentary : ...environment.

Sound : Background music "compresses" (Synch with visuals).

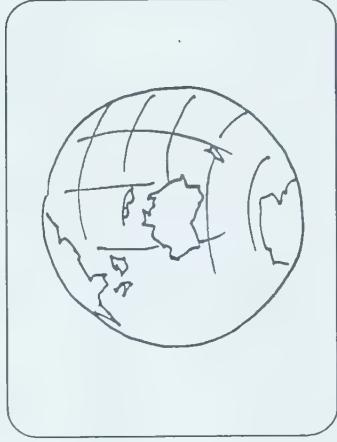


Shot : 20. CU **Med.** : C. A. **Time :** 35.5/36.5

Action : Black background. World map is revealed on other side of Ford as it...

Commentary : ...a result of the worldwide...

Sound : Idem.

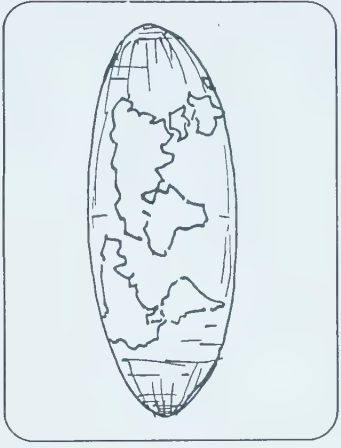


Shot : 23. CU. **Med.** : C. A. **Time :** 39.5/40.5

Action : Starry sky. Globe (Orthographic projection) then rotates twice 180°ccw on a vertical axis moderately fast until...

Commentary : ---

Sound : Moderate tempo.



Shot : 21. CU **Med.** : C. A. **Time :** 36.5/38

Action : ...turns to be a world map in Mollweide projection. Stars begin to appear.

Commentary : ...growing concern for the...

Sound : Idem. Punctuate at 37/38.



Shot : 24. CU. **Med.** : C.A. **Time :** 40.5/42.5

Action : ...it stops with North and South America facing the viewer.

Commentary : Only thirty North...

Sound : Tempo slows down.

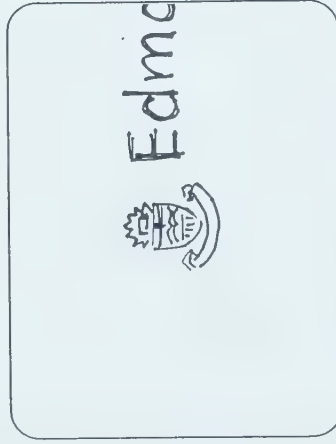


Shot : 25. MCU **Med :** C. A. **Time :** 42.5/44.5

Action : Upper half of globe "comes out" towards viewer, as it indicates the locations (with dots) of the participating schools.

Commentary : ...American post-secondary schools were chosen to...

Sound : Background music. Punctuate at 43.



Shot : 28. MCU **Med :** C. A. **Time :** 49.5/50.5

Action : As camera approaches dot, viewers are able to recognize it as the U of A crest.

Commentary : ...Canadian schools selected to...

Sound : Foreground music.

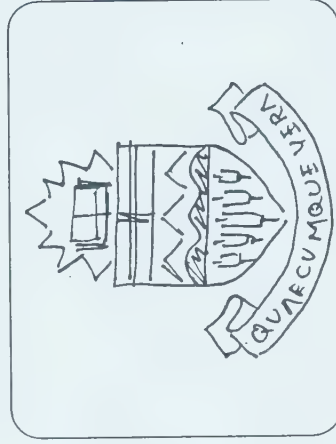


Shot : 26. MCU **Med :** C. A. **Time :** 44.5/47.5

Action : 3d Canada "grows" upwards. Edmonton is indicated on map (dot positioned to left of city name).

Commentary : ...compete in this challenge. And the University...

Sound : Speed up tempo.

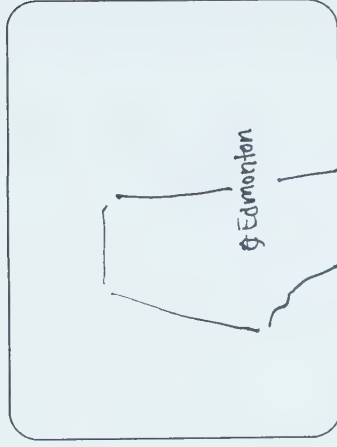


Shot : 29. XCU **Med :** C. A. **Time :** 50.5/51

Action : (Crest has gold attributes).

Commentary : ...participate.

Sound : Idem. Punctuate.



Shot : 27. CU **Med :** C. A. **Time :** 47.5/49.5

Action : Dolly into Edmonton's dot.

Commentary : ...of Alberta was one of only two...

Sound : Idem.

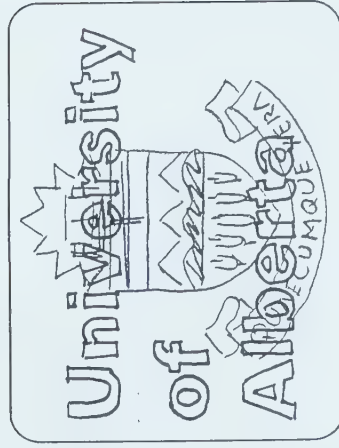


Shot : 30. XCU. **Med :** C. A. **Time :** 51/53

Action : Translucent blue type: 'University of Alberta', enters screen from right to left...

Commentary : ---

Sound : Slow down tempo.

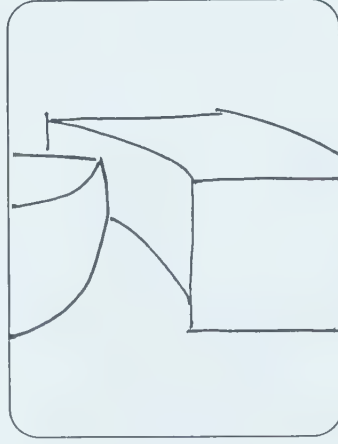


Shot : 31. XCU **Med. :** C. A. **Time :** 53/53.5

Action : ...until it's centered in front of crest, hold .5" (The overlap of the semi-transparent blue type and golden crest produce a green).

Commentary : ---

Sound : Punctuate.

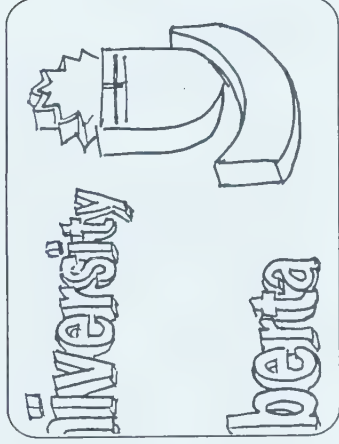


Shot : 34. XCU **Med. :** C. A. **Time :** 55.5/56

Action : Tracking into lower section of crest.

Commentary : ---

Sound : Idem.

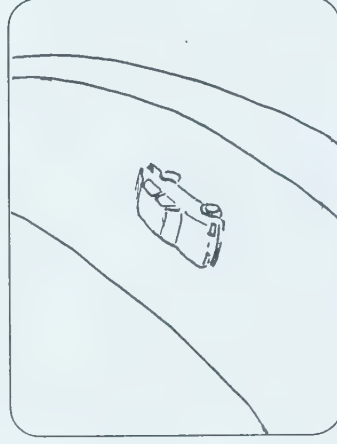


Shot : 32. MCU **Med. :** C. A. **Time :** 53.5/54.5

Action : Both type and crest rotate 30°ccw on a vertical axis.

Commentary : ---

Sound : Moderate tempo.

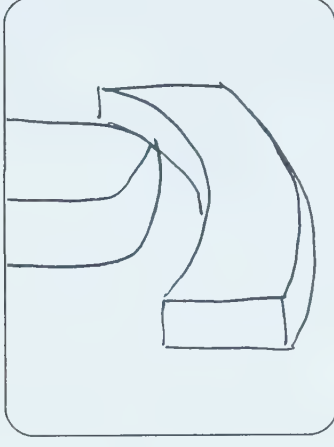


Shot : 35. LS **Medium :** C. A. **Time :** 56/57.5

Action : HEV appears from a distance advancing on the crest's strip.

Commentary : Powered by a combination...

Sound : Background music. Faster tempo.

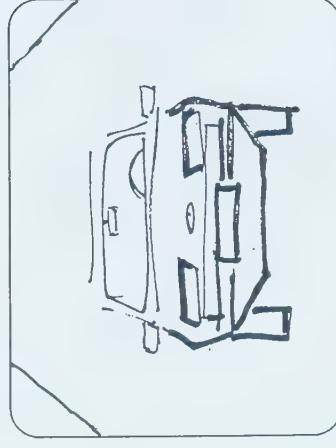


Shot : 33. XCU **Med. :** C. A. **Time :** 54.5/55.5

Action : As crest rotates another 10°ccw, camera dolly's into crest's strip, passing in between 'of' and 'Alberta'.

Commentary : ---

Sound : Foreground music synch with CU camera movements.

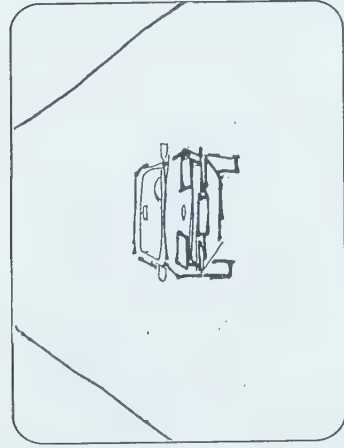


Shot : 36. MS **Med. :** C. A. **Time :** 57.5/58.5

Action : Front view of car advancing.

Commentary : ...of electricity and...

Sound : Punctuate.



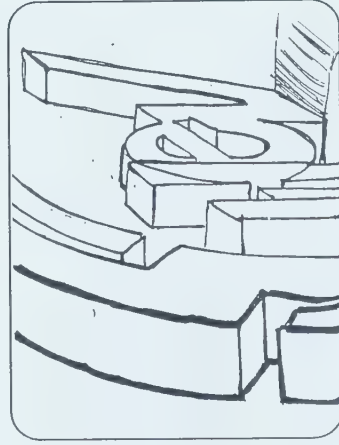
Shot : 37. MLS **Med. :** C. A. **Time :** 58.5/59

Action : (Transition point from car being on top of crest to being on top of HEV).

Camera starts to pull back and pans left to...

Commentary : ...gasoline...

Sound : Background music. Fast tempo.

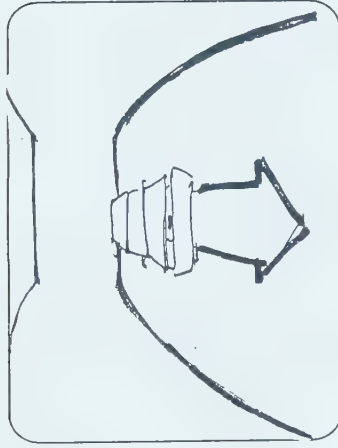


Shot : 40. CU logo **Med. :** C. A. **Time :** 60.5/61.5

Action : Zoom out sideways until car disappears.

Commentary : ...cars.

Sound : Idem.

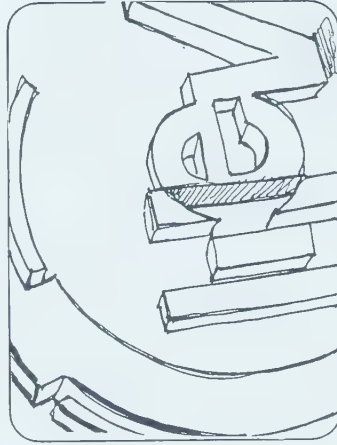


Shot : 38. LS of car **Med. :** C. A. **Time :** 59/60

Action : ...a 45° angle top view and zooms out of car until it's seen advancing on top of the yellow line of 3d logo in between the green and the yellow.

Commentary : ...the HEV is a contemporary...

Sound : Idem.

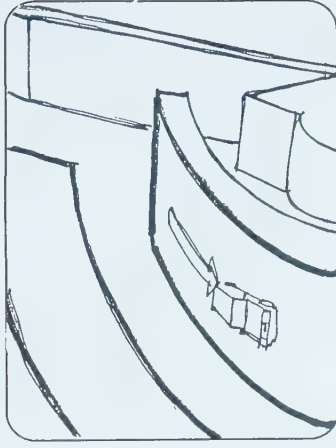


Shot : 41. CU **Med. :** C. A. **Time :** 61.5/62.5

Action : Camera pans right moderately fast while lowering angle.

Commentary : ---

Sound : Idem.



Shot : 39. XCU logo **Med. :** C. A. **Time :** 60/60.5

Action : Vehicle advances towards the 'H'.

Commentary : ...alternative to conventional...

Sound : Background music. Slower tempo.



Shot : 42. MCS **Med. :** C. A. **Time :** 62.5/66.5

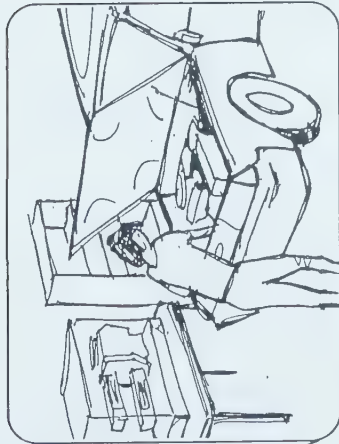
Action : Frontal view of bi-dimensional HEV logo (with accompanying type). Hold 4" ,

Commentary : ---

Sound : Music becomes fainter as...

FADE-OUT

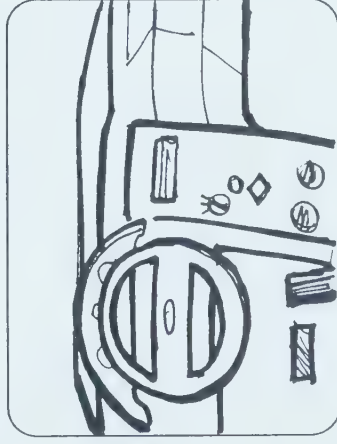
IMAGE
FADES-IN



Shot : 43. MLS Medium : V Time : 66.5/73.5

Action : Camera dollies into Mech. Engineering workshop. Seven engineers are building the car.

Commentary : Faced with time and budget constraints Mechanical and Electrical engineers successfully modified the standard Escort station wagon...
Sound : ...voices and atmosphere noises fade-in.



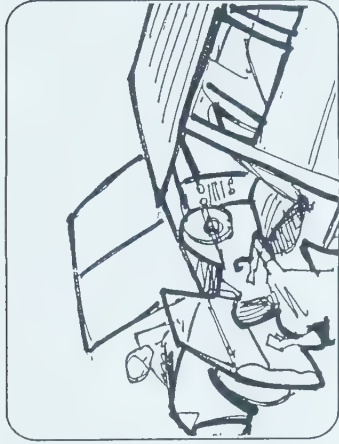
Shot : 46. CU Medium : V Time : 87/91

Action : Camera pans 30° right, captures dashboard.

Commentary : ...to demonstrate the HEV concept. They also built a dashboard prototype which accommodates the new power system displays.

Sound : Idem.

FLASH PAN
LEFT

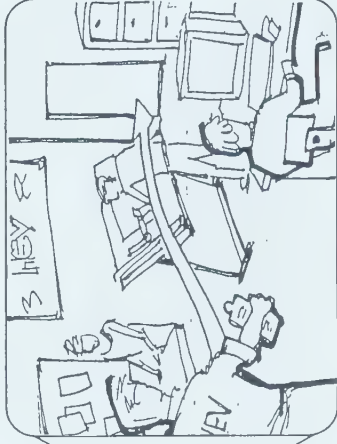


Shot : 44. LS Medium : V Time : 73.5/80.5

Action : Camera dolly's right (sideways) to see interior front and battery box.

Commentary : ...into a functional HEV. To meet the growing challenges of fund-raising and public education,...

Sound : Voices + sounds (FX) continue ...



Shot : 47. LS Medium : V Time : 91/95.5

Action : Subjective camera dollies forward into a design area (VCD) where six students are busy designing.

Commentary : Graphic Designers developed promotional materials to increase public awareness.

Sound : Idem.

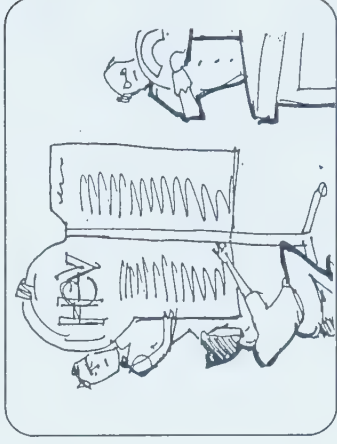


Shot : 45. MLS Medium : V Time : 80.5/87

Action : Someone is building the engine model in I. D.

Commentary : ...additional students with diverse talents were recruited. Industrial designers created a life-size engine model...

Sound : ...up to shot 50.



Shot : 48. MS Medium : V Time : 95.5/99.5

Action : Camera pans left. Students with exhibition panels.

Commentary : Although the HEV Project began solely as an...

Sound : Idem.

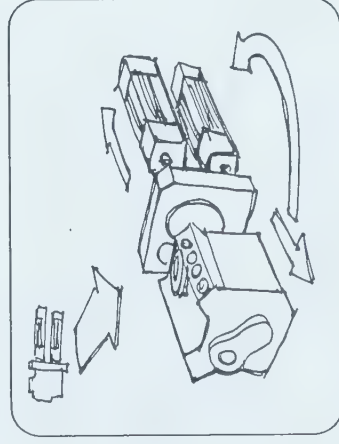


Shot : 49. LS Medium : V Time : 99.5/107

Action : Camera dollies into HEV meeting room. Students around table in front of blackboard.

Commentary : ...engineering challenge, the University of Alberta is the only school that has developed...

Sound : Idem.

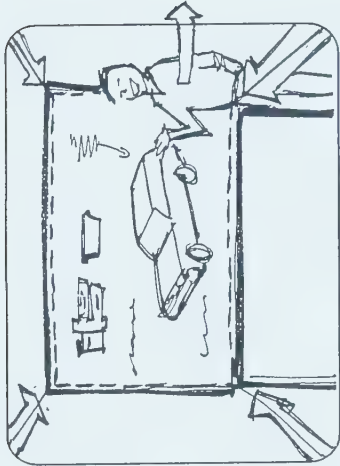


Shot : 52. MCU Med. : C. A. Time : 115/120.5

Action : Blackboard fades to 30%. Wireframed engine becomes fully rendered and splits into three.

Commentary : The HEV engine is made up of three main parts: two electric motors, a combustion engine, and a coupler linking them together.

Sound : Rhythmic music sync with slow engine movements. Punctuate at 116.

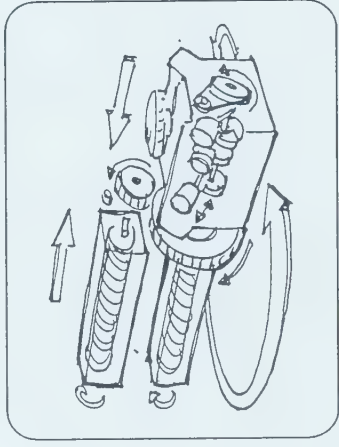


Shot : 50. MLS Medium : V Time : 107/110

Action : Engineer draws on blackboard while explaining.

Commentary : ...a unique collaborative team effort to ensure...

Sound : FX fade-out.

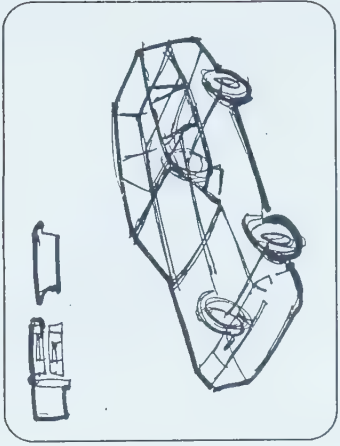


Shot : 53. MCU Med. : C. A. Time : 120.5/136.5

Action : All parts become transparent. Inside pieces spin. Engine rotates 180° ccw and joins together.

Commentary : ...The two electric motors, in use most of the time emit no air pollutants. The internal combustion engine adds extra range compensating for the limited capacity of the electric batteries.

Sound : Background music. Slow tempo.

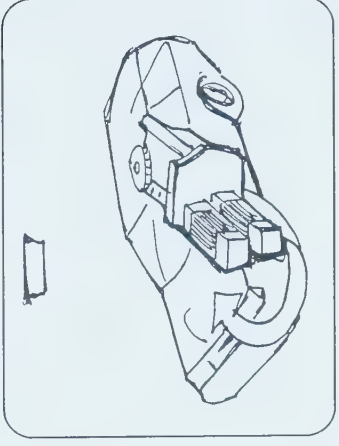


Shot : 51. CU Medium : V Time : 110/115

Action : Zoom into blackboard.

Commentary : ...the car's completion.

Sound : Background music fades-in at 111. Moderate tempo.

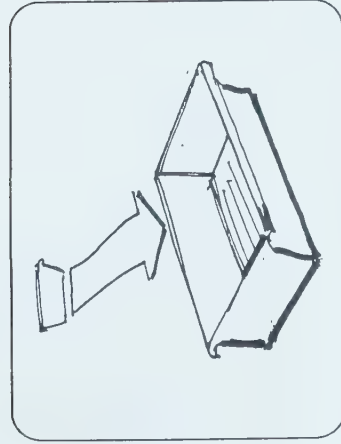


Shot : 54. CU Med. : C. A. Time : 136.5/145.5

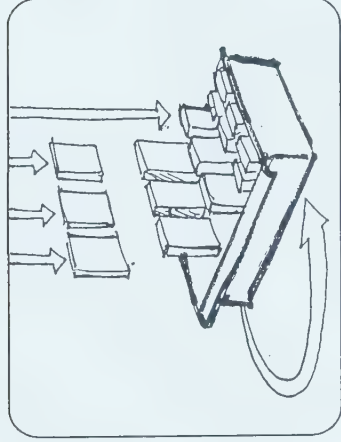
Action : Fully rendered again, the engine "flies" into its location inside the wireframed car.

Commentary : With this system the HEV can operate in three modes: electric mode only, internal combustion mode only, or a combined hybrid mode.

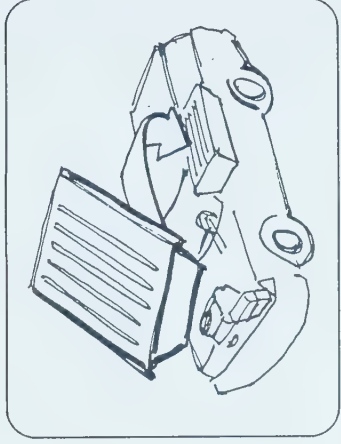
Sound : Moderate tempo.



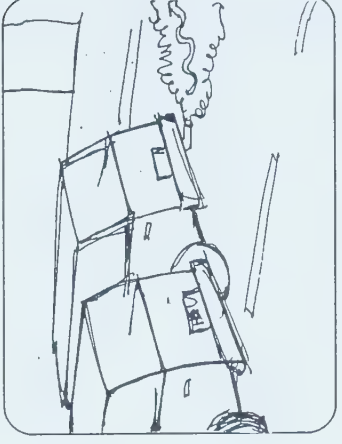
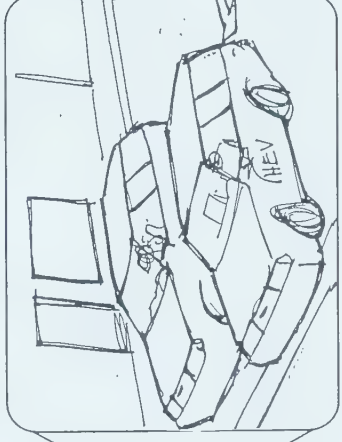
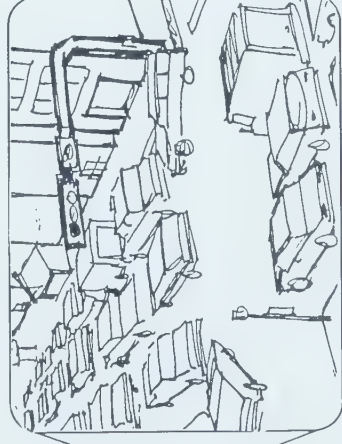
Shot : 55. MCU **Med. :** C. A. **Time :** 145.5/148.5
Action : Battery box becomes fully rendered, top becomes transparent.
Commentary : The rechargeable batteries provide a reliable and safe power source for city driving. The protective steel box is situated...
Sound : Slow down tempo. Punctuate at 146.5.



Shot : 56. MCU **Med. :** C. A. **Time :** 148.5/153.5
Action : As box rotates, batteries drop into place.
Commentary : ...in the area normally occupied by the rear seats. However, if the car were mass-produced, the batteries could be accommodated without...
Sound : Background music synch with action.



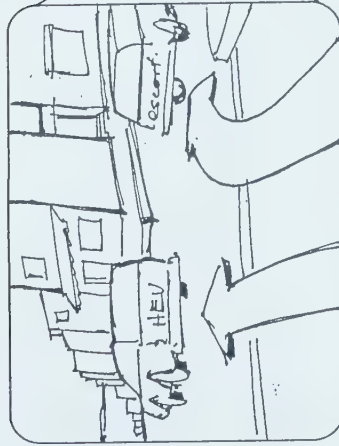
Shot : 57. CU **Med. :** C. A. **Time :** 153.5/163.5
Action : Fully rendered again, battery box "flies" into the wireframed car.
Commentary : ...altering the interior of the vehicle.
Sound : Faster tempo. Background music mixes with...



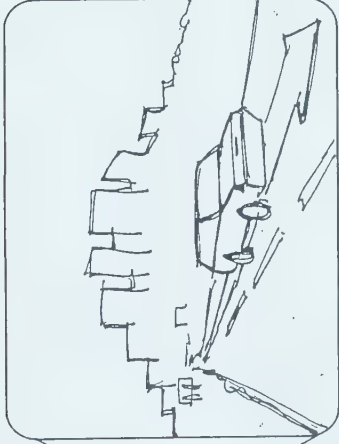
Shot : 58. XLS **Med. :** V **Time :** 163.5/170.5
Action : Traffic, noise and smog.
Commentary : To reduce urban air pollution significantly, a large number of Hybrid Electric Vehicles...
Sound : ...engines puffing exhaust fumes (FX).

Shot : 59. MLS **Med. :** V **Time :** 170.5/175
Action : HEV enters frame through right, slowing down and stopping at a light, next to a standard station wagon.
Commentary : ...will have to replace conventional automobiles.
Sound : Silence overcomes accelerating car, as HEV enters frame.

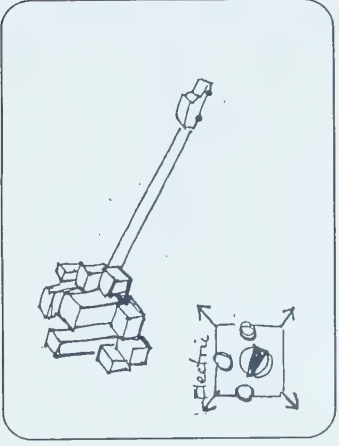
Shot : 60. MCU **Med. :** V **Time :** 175/178.5
Action : Standard car puffs exhaust fumes.
Commentary : As natural resources dwindle and regulations tighten, gas burning vehicles will be severely restricted.
Sound : FX: car accelerating.



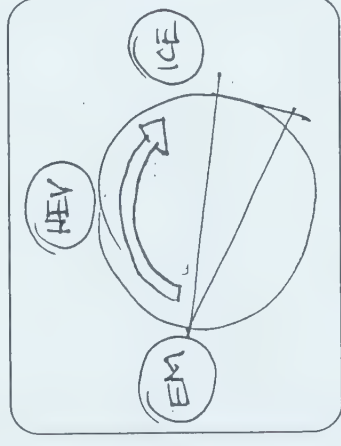
Shot : 61. LS **Med.** : V **Time :** 178.5/183.5
Action : Camera pans left. Light turns green and camera follows HEV while conventional car turns right.
Commentary : Electric cars promise something the gas powered cars cannot: ...
Sound : Noise fades-out.



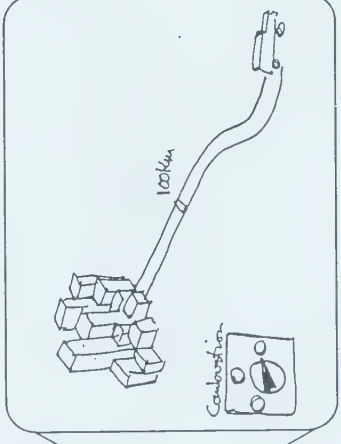
Shot : 62. XLS **Med.** : V **Time :** 183.5/188.5
Action : Car zooms past locked-off camera.
Commentary : ...the opportunity to continue owning and driving personal automobiles. However, today's purely electric...
Sound : FX: HEV's silent engine.



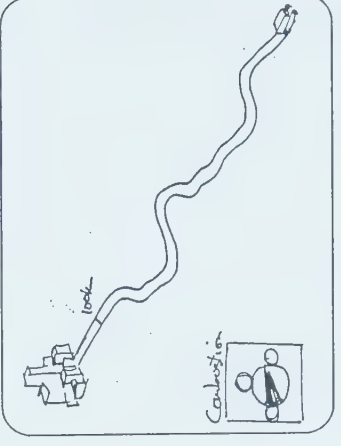
Shot : 63. LS. **Med.** : C. A. **Time :** 188.5/198.5
Action : Camera pulls back, HEV advances out of city and stops at 75km. Mode switch zooms...
Commentary : ...vehicles cannot travel long distances. In electric mode the HEV will run for 75 km, driving at city speeds.
Sound : Background music fades in. Slow tempo



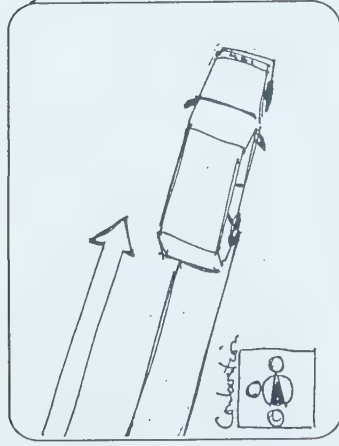
Shot : 64. XCU **Med.** : C. A. **Time :** 198.5/200
Action : ...out and clicks from EM to ICE mode. Hold 1.5".
Commentary : To extend the driving range to 500 kilometers...
Sound : FX: "Click".



Shot : 65. LS. **Med.** : C. A. **Time :** 200/202
Action : HEV advances towards right lower corner leaving a mark of 100 km behind. As vehicle is about to leave frame,...
Commentary : ...the internal combustion engine can be switched...
Sound : Background music speeds up tempo.



Shot : 66. XLS **Med.** : C. A. **Time :** 202/205
Action : ...camera pulls back further. HEV advances and leaves frame through lower right corner,...
Commentary : ...on at any time.
Sound : Background music. Fast tempo.

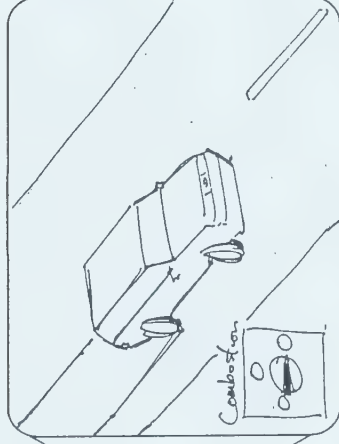


Shot : 67. MLS Med. : C. A. Time : 205/207

Action : ...re-entering again through the left. Camera tracks into top view of moving car.

Commentary : ---

Sound : Idem.

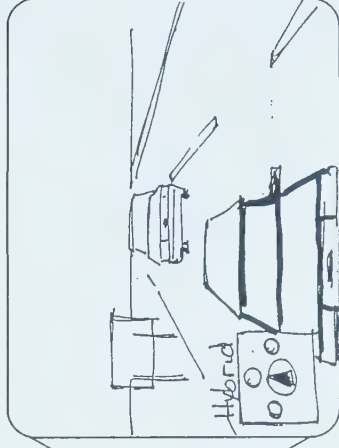


Shot : 68. MS Med. : C. A. Time : 207/208

Action : Street fades-in. Car advances.

Commentary : And when extra acceleration is..

Sound : Slow down tempo.

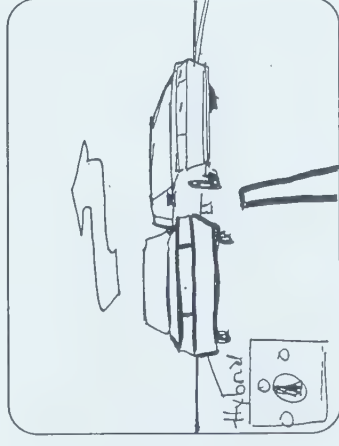


Shot : 69. MLS Med. : C. A. Time : 208/210.5

Action : HEV in a highway behind a standard station wagon.

Commentary : ...required for passing or hilly terrain,...

Sound : Moderate tempo. FX: "Click" to Hybrid mode.

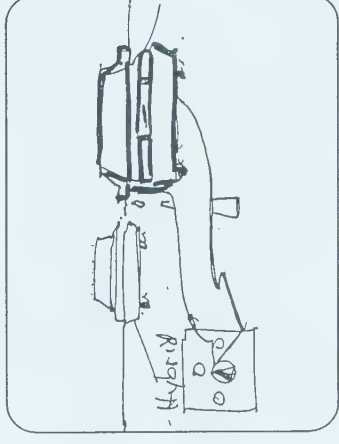


Shot : 70. MS Med. : C. A. Time : 210.5/220.5

Action : (Front, eye-level view). Mode switch clicks to Hybrid mode and then HEV passes other car.

Commentary : ...the vehicle can run in a Hybrid mode using both the electric and...

Sound : Faster tempo.

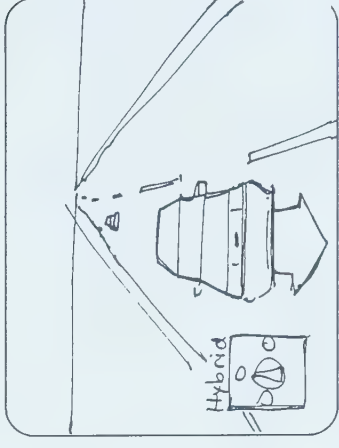


Shot : 71. MLS Med. : C. A. Time : 220.5/224.5

Action : HEV accelerates.

Commentary : ...gasoline motors.

Sound : Foreground music up to shot 74..



Shot : 72. X LS Med. : C. A. Time : 224.5/228.5

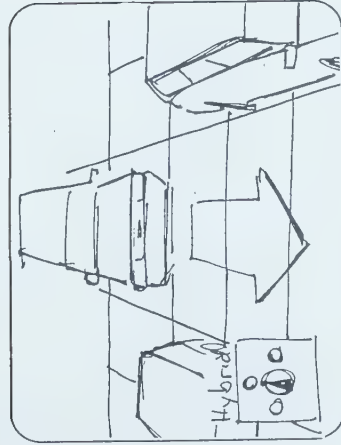
Action : HEV is ahead.

Commentary : ---

Sound : Idem.

CUT

CUT

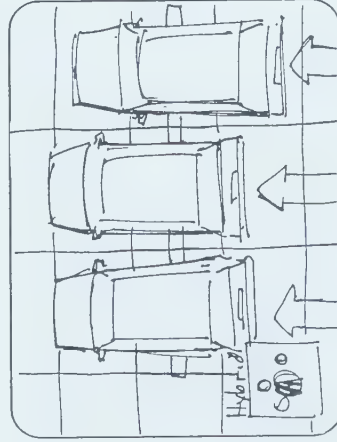


Shot : 73. MS **Med. :** C. A. **Time :** 228.5/231.5

Action : HEV advances (from upper middle screen) and stops in between two other cars. Grid fades-in. Hold 4".

Commentary : ---

Sound : Slow down tempo as car comes to a stop.

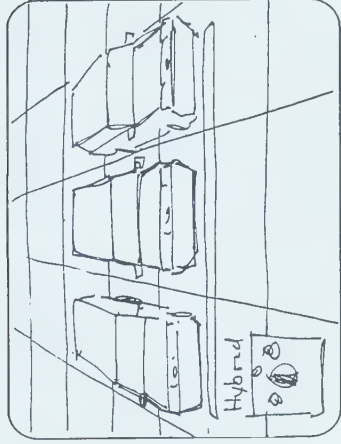


Shot : 76. MCS **Med. :** C. A. **Time :** 236/240

Action : Top view. Performance comparison "race" begins (HEV in front).

Commentary : ...100 km/h in 19.6 seconds. This is...

Sound : Idem.

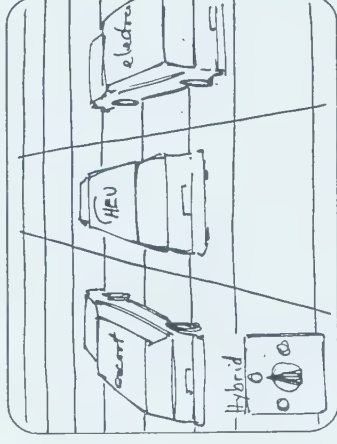


Shot : 74. MLS **Med. :** C. A. **Time :** 231.5/233.5

Action : Camera pulls back slightly. HEV is in between a standard escort (left) and an electric (right).

Commentary : ---

Sound : Music punctuates the start of the "race".

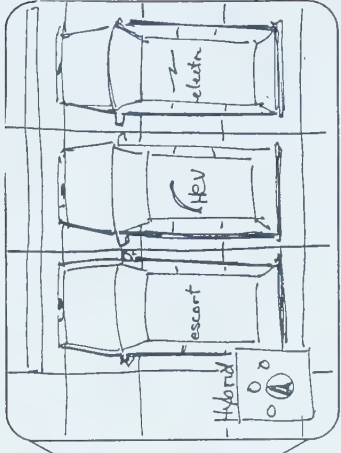


Shot : 77. LS **Med. :** C. A. **Time :** 240/241

Action : Back view. HEV in center.

Commentary : ...slower than a conventional...

Sound : Idem.

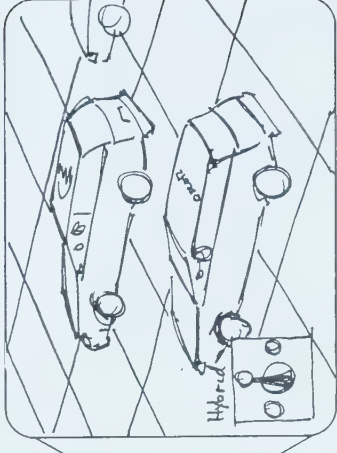


Shot : 75. MS **Med. :** C. A. **Time :** 233/236

Action : Top view. Three cars are aligned facing north.

Commentary : In electric mode the HEV accelerates from zero to...

Sound : Background music. Moderate tempo.

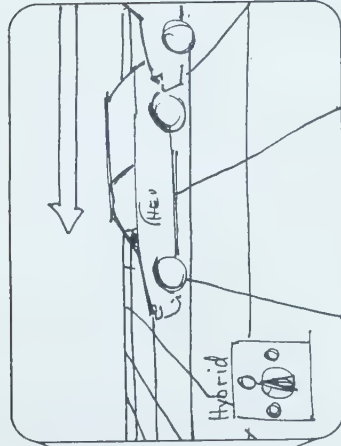


Shot : 78. MLS **Med. :** C. A. **Time :** 241/245.5

Action : Camera tracks down.

Commentary : ...Escort station wagon, but in Hybrid mode the HEV is faster.

Sound : Background music. Faster tempo.

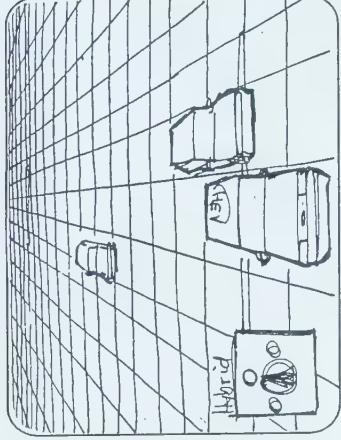


Shot : 79. MS Med. : C. A. Time : 245.5/249

Action : HEV passes white line and frame freezes. Camera pans left to a...

Commentary : Its time of only 10.8 seconds beats the standard Escort...

Sound : Fast tempo. Pause at 249.

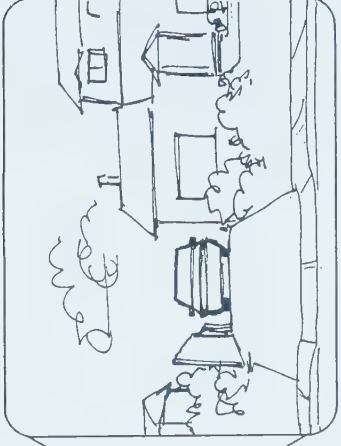


Shot : 80. XLS Med. : C. A. Time : 249/250

Action : ...front view. Distance gaps can be noticed. Image fades-out (darkens at 204/205).

Commentary : ... by almost a full second.

Sound : Music fades-out.

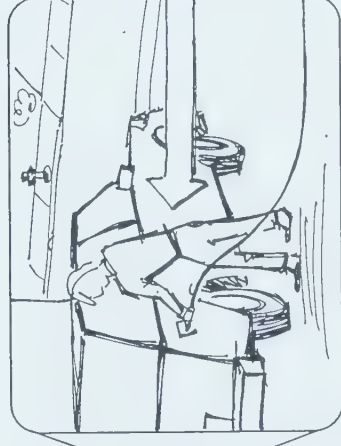


Shot : 81. LS Med. : V Time : 250/258

Action : Back view of HEV which is parked to left of suburban house. Sky lightens at 205/207.

Commentary : Most homes and parking facilities in Canada already have outlets which can be...

Sound : Background music fades-in. FX: natural sounds of a suburban morning.

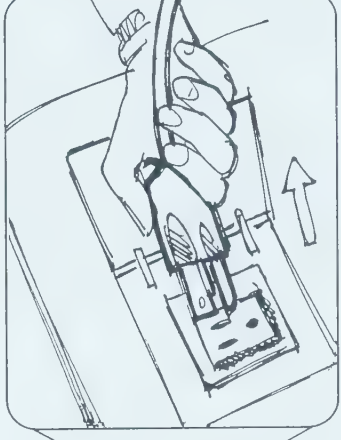


Shot : 82. LS Med. : V Time : 258/263

Action : 28 yr. old female enters screen through right and...

Commentary : ...used for recharging electric vehicles. If recharged every second night for 6-8 hours...

Sound : Background music.

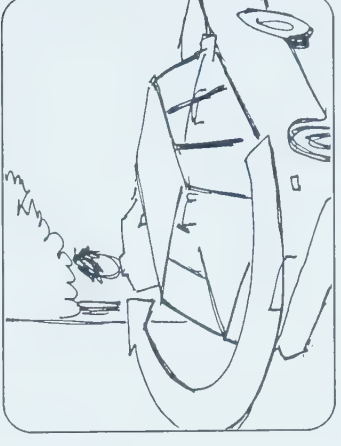


Shot : 83. XCU Med. : C. A. Time : 263/266.5

Action : ...unplugs car.

Commentary : ...the HEV batteries will last approximately 11 years.

Sound : FX: "Chk".



Shot : 84. MLS Med. : V Time : 266.5/271.5

Action: She gets inside vehicle and...

Commentary : ---

Sound : Background music. Moderate tempo.

CUT



Shot : 85. MS Med. : V Time : 271.5/276.5

Action : ...drives out into street , leaving frame through right.

Commentary : The HEV Challenge has motivated the University of Alberta...

Sound : Music and natural sounds fade-out.

Johanna Pedersen

PRODUCER & ART DIRECTOR

Kyle Loranger

CO-PRODUCER & STORYBOARD ARTIST

Tom McCandless

Shot : 88. CU Med. : C. A. Time : 306/323

Action : Video production credits roll as a tiny HEV advances either upwards (top view of car) and sideways (side view of car), appearing, disappearing and re-appearing on the screen.

Commentary : ---

Sound : Foreground rhythmic music.

CUT



Shot : 86. MLS Med. : V Time : 276.5/289

Action : HEV turns around as team members cheer.

Commentary : ... students to develop this revolutionary technology. It is an achievement that will inspire further development towards the future production of environmentally friendly vehicles.

Sound : FX: cheering voices fade-in and out.

James Taras

Desmond Rochfort

Jorge Frascara

Nick Bakyta

TINSELL MEDIA PRODUCTIONS

Daron Donhue

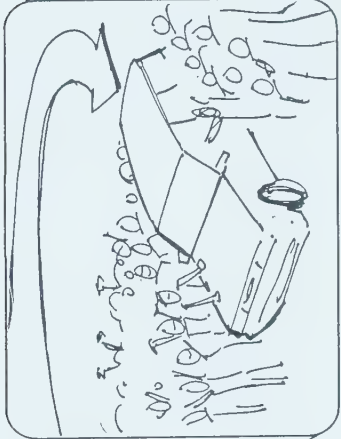
Shot : 89. CU Med. : C. A. Time : 323/332

Action : Credits of the people who provided support in the production of the HEV video roll upwards.

Commentary : ---

Sound : Idem. Music starts fading-out at 329.

CUT



Shot : 87. XLS Med. : C. A. Time : 289/306

Action : Car drives out of frame and enters through lower right corner into a city which gets "greener" and brighter as car approaches it.

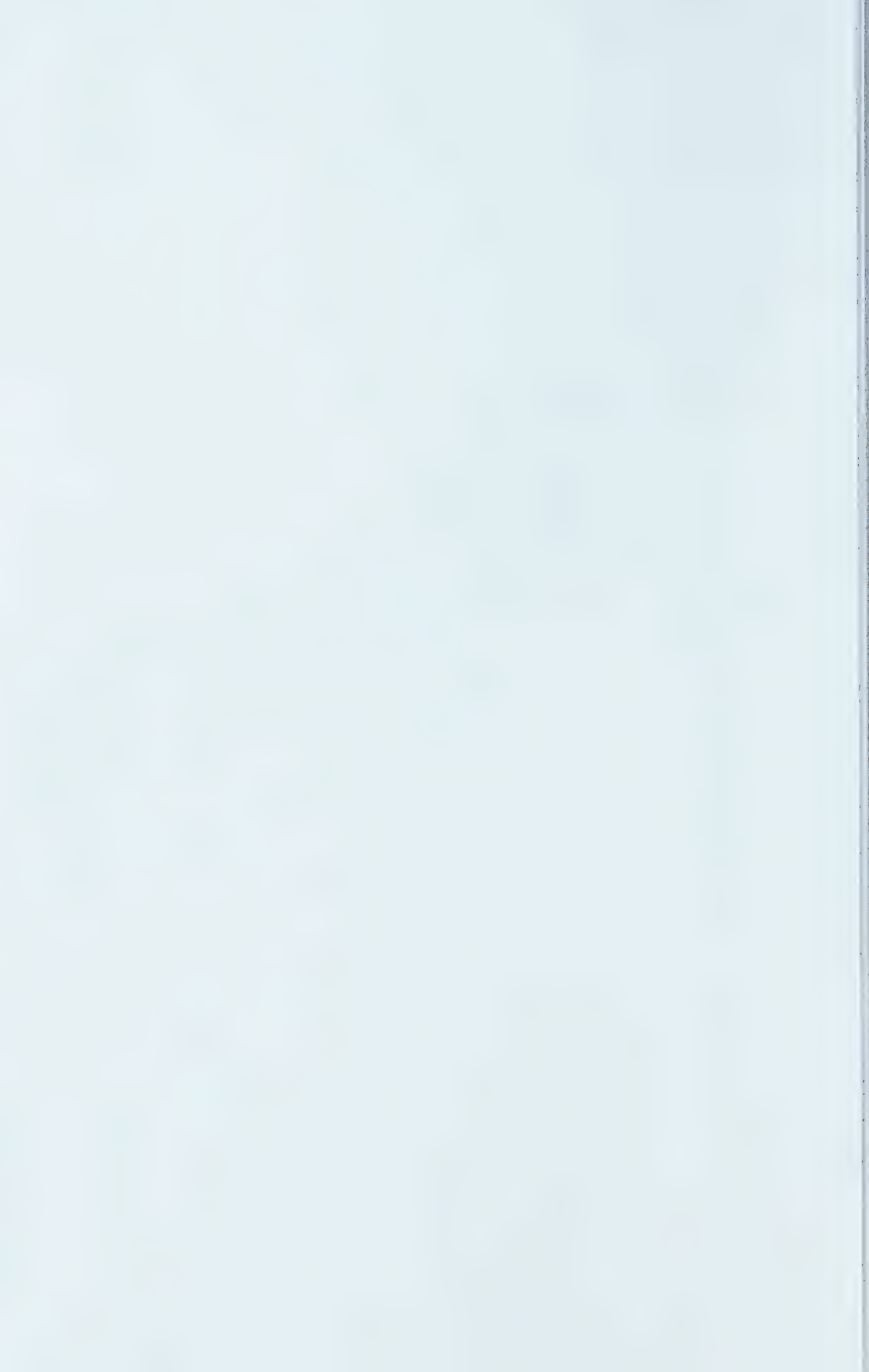
Commentary : Industry, Government and Academia have combined resources to make this project a reality. Through their continued collaborative efforts, HEV's may finally bring the automobile into harmony with the environment.

Sound : Background music fades in and gradually becomes louder. Moderate tempo.



Appendix III

TIME GRAPH



Background rhythmic music fades-in. Moderate tempo.

Shot 1

Fade-in

The University of Alberta HEV Project
0 12.5 25 37.5 50 62.5 75 87.5 1 12.5 25 37.5 50 62.5 75 87.5 2 12.5 25 37.5 50 62.5 75 87.5 3

Rhythmic music accompanies type movements up to shot 14.

Shot 2

Shot 3

has been realized through the participation and
3 12.5 25 37.5 50 62.5 75 87.5 4 12.5 25 37.5 50 62.5 75 87.5 5 12.5 25 37.5 50 62.5 75 87.5 6

Shot 4

Shot 5

generosity of these and many other
6 12.5 25 37.5 50 62.5 75 87.5 7 12.5 25 37.5 50 62.5 75 87.5 8 12.5 25 37.5 50 62.5 75 87.5 9

Shot 6

organizations.

9 12.5 25 37.5 50 62.5 75 87.5 10 12.5 25 37.5 50 62.5 75 87.5 11 12.5 25 37.5 50 62.5 75 87.5 12

Shot 7

Shot 8

The Project team is grateful
12 12.5 25 37.5 50 62.5 75 87.5 13 12.5 25 37.5 50 62.5 75 87.5 14 12.5 25 37.5 50 62.5 75 87.5 15

Shot 9

Shot 10

to all these organizations and individuals
15 12.5 25 37.5 50 62.5 75 87.5 16 12.5 25 37.5 50 62.5 75 87.5 17 12.5 25 37.5 50 62.5 75 87.5 18

Shot 11

Shot 12

who provided a stimulating and challenging

18 12.5 25 37.5 50 62.5 75 87.5 19 12.5 25 37.5 50 62.5 75 87.5 20 12.5 25 37.5 50 62.5 75 87.5 21

Shot 13

Shot 14

Rhythmic music fades out. Punctuate at 23.5/24.

working environment.

21 12.5 25 37.5 50 62.5 75 87.5 22 12.5 25 37.5 50 62.5 75 87.5 23 12.5 25 37.5 50 62.5 75 87.5 24

Background music (tumbling noise) accelerates at 26.

Shot 15

* In 1991, the Ford Motor Company,

24 12.5 25 37.5 50 62.5 75 87.5 25 12.5 25 37.5 50 62.5 75 87.5 26 12.5 25 37.5 50 62.5 75 87.5 27

Shot 16

Shot 17

Punctuate at 32/33.

the Society of Automotive Engineers International

27 12.5 25 37.5 50 62.5 75 87.5 28 12.5 25 37.5 50 62.5 75 87.5 29 12.5 25 37.5 50 62.5 75 87.5 30

and the United States Department of Energy initiated the

30 12.5 25 37.5 50 62.5 75 87.5 31 12.5 25 37.5 50 62.5 75 87.5 32 12.5 25 37.5 50 62.5 75 87.5 33

Background rhythmic music. Moderate tempo.

Shot 18

Shot 19

Shot 20

Hybrid Electric Vehicle Challenge as a result

33 12.5 25 37.5 50 62.5 75 87.5 34 12.5 25 37.5 50 62.5 75 87.5 35 12.5 25 37.5 50 62.5 75 87.5 36

Background music "compresses". Synchronizes with visuals.

Shot 21

Shot 22

of the worldwide growing concern for the environment.

Moderate tempo.

Shot 23

Slower tempo.

Shot 24

Only thirty North

Background music. Punctuate at 43.

Shot 25

Speed up tempo.

Shot 26

American post-secondary schools were chosen to

Shot 27

compete in this challenge. The University of

Foreground music.

Shot 28

Punctuate at 50.5/51.5.

Shot 29

Alberta was one of only two Canadian schools

Slow down tempo.

Shot 30

Punctuate at 53/53.5.

Shot 31

Moderate tempo.

Shot 32

selected to participate.

Foreground music synchronizes with close-up camera movements.

Background music. Faster tempo.

Shot 33

Shot 34

Shot 35

* Powered by a combination of



Punctuate at 57.5/58.5.

Shot 36

Shot 37

Shot 38



Background music. Slower tempo.

Shot 39

Shot 40

Shot 41

Music becomes fainter as...

Shot 42



* Faced with time and budget



...voices and atmosphere noises fade-in (FX).

Shot 43

constraints, Mechanical and Electrical engineers



successfully modified the standard station



Shot 44

wagon into a functional HEV. To meet the growing

challenges of fund-raising and public education, additional

Shot 45

students with diverse talents were recruited.

Industrial designers created a life-size engine model

to demonstrate the HEV concept. They also built a

Shot 46

dashboard prototype which accommodates the new power

Shot 47

system displays

* Graphic designers



Shot 48

developed promotional materials to increase public



awareness.



Shot 49

Although the HEV



Project began solely as an engineering challenge,



FX fade-out.

Shot 50

the University of Alberta is the only school that



Shot 51

has developed a unique collaborative team effort

108 12.5 25 37.5 50 62.5 75 87.5 109 12.5 25 37.5 50 62.5 75 87.5 110 12.5 25 37.5 50 62.5 75 87.5 111

to ensure the car's completion.

111 12.5 25 37.5 50 62.5 75 87.5 112 12.5 25 37.5 50 62.5 75 87.5 113 12.5 25 37.5 50 62.5 75 87.5 114

Rhythmic music synchronizes with slow engine movements. Punctuate at 116.

Shot 52

The HEV engine is made up of three main parts:

114 12.5 25 37.5 50 62.5 75 87.5 115 12.5 25 37.5 50 62.5 75 87.5 116 12.5 25 37.5 50 62.5 75 87.5 117

two electric motors, a combustion engine, and a

117 12.5 25 37.5 50 62.5 75 87.5 118 12.5 25 37.5 50 62.5 75 87.5 119 12.5 25 37.5 50 62.5 75 87.5 120

Shot 53

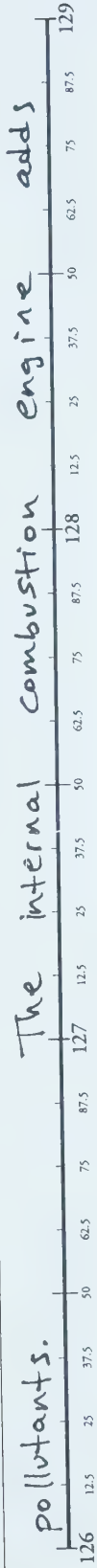
coupler linking them together.

120 12.5 25 37.5 50 62.5 75 87.5 121 12.5 25 37.5 50 62.5 75 87.5 122 12.5 25 37.5 50 62.5 75 87.5 123

motors, in use most of the time, emit no air

123 12.5 25 37.5 50 62.5 75 87.5 124 12.5 25 37.5 50 62.5 75 87.5 125 12.5 25 37.5 50 62.5 75 87.5 126

pollutants.



extra range compensating for the limited capacity



of the electric batteries



With this

system the HEV can operate in three modes: electric



Background music. Moderate tempo.

Shot 54

mode only, internal combustion mode only, or a



combined hybrid mode.



Slow down tempo. Punctuate at 146.5.

Shot 55

The rechargeable batteries provide a reliable and safe power source for city driving. The protective steel box is situated in the area normally occupied by the rear seats. However, if the car were mass-produced, the batteries could be accommodated without altering the interior of the vehicle.

Background music synchronizes with action.

Shot 56

The protective steel box is situated in the area normally occupied by the rear seats. However, if the car were mass-produced, the batteries could be accommodated without altering the interior of the vehicle.

Faster tempo. Background music mixes with...

Shot 57

The rechargeable batteries provide a reliable and safe power source for city driving. The protective steel box is situated in the area normally occupied by the rear seats. However, if the car were mass-produced, the batteries could be accommodated without altering the interior of the vehicle.

...engines puffing exhaust fumes (FX).

Shot 58

As Natural resources

dwindle and regulations tighten, gas burning

Silence overcomes accelerating car, as HEV

Shot 59

vehicles will be severely restricted. Electric

enters frame.

cars promise something the gas powered cars

FX: car accelerating.

Shot 60

cannot: the opportunity to continue

Noise fade-out.

Shot 61

owning and driving personal automobiles.

180 12.5 25 37.5 50 62.5 75 87.5 181 12.5 25 37.5 50 62.5 75 87.5 182 12.5 25 37.5 50 62.5 75 87.5 183

FX: HEV silently zooms past locked-off camera.

Shot 62

183 12.5 25 37.5 50 62.5 75 87.5 184 12.5 25 37.5 50 62.5 75 87.5 185 12.5 25 37.5 50 62.5 75 87.5 186

Background music fades-in. Slow tempo.

Shot 63

186 12.5 25 37.5 50 62.5 75 87.5 187 12.5 25 37.5 50 62.5 75 87.5 189
X However, today's purely electric

vehicles cannot travel long distances. In electric
189 12.5 25 37.5 50 62.5 75 87.5 190 12.5 25 37.5 50 62.5 75 87.5 192

mode the HEV will run for 75 km, driving
192 12.5 25 37.5 50 62.5 75 87.5 193 12.5 25 37.5 50 62.5 75 87.5 195

at city speeds -
195 12.5 25 37.5 50 62.5 75 87.5 196 12.5 25 37.5 50 62.5 75 87.5 198

FX: "Click".

Shot 64

Background music speeds up tempo.

Shot 65

To extend the driving range to 500 Kilometers

198 12.5 25 37.5 50 62.5 75 87.5 199 12.5 25 37.5 50 62.5 75 87.5 200 12.5 25 37.5 50 62.5 75 87.5 201

Background music. Fast tempo.

Shot 66

the internal combustion engine can be switched on

201 12.5 25 37.5 50 62.5 75 87.5 202 12.5 25 37.5 50 62.5 75 87.5 203 12.5 25 37.5 50 62.5 75 87.5 204

Shot 67

at any time. X When extra

204 12.5 25 37.5 50 62.5 75 87.5 205 12.5 25 37.5 50 62.5 75 87.5 206 12.5 25 37.5 50 62.5 75 87.5 207

Slow down tempo.

Shot 68

Moderate tempo. FX: "Click" to Hybrid mode.

Shot 69

acceleration is required for passing or hilly terrain,

207 12.5 25 37.5 50 62.5 75 87.5 208 12.5 25 37.5 50 62.5 75 87.5 209 12.5 25 37.5 50 62.5 75 87.5 210

Shot 70

the vehicle can run in a hybrid mode

210 12.5 25 37.5 50 62.5 75 87.5 211 12.5 25 37.5 50 62.5 75 87.5 212 12.5 25 37.5 50 62.5 75 87.5 213

using both the electric and gasoline motors. 6

213 12.5 25 37.5 50 62.5 75 87.5 214 12.5 25 37.5 50 62.5 75 87.5 215 12.5 25 37.5 50 62.5 75 87.5 216

216 12.5 25 37.5 50 62.5 75 87.5 217 12.5 25 37.5 50 62.5 75 87.5 218 12.5 25 37.5 50 62.5 75 87.5 219

Foreground music up to shot 74.

Shot 71

219 12.5 25 37.5 50 62.5 75 87.5 220 12.5 25 37.5 50 62.5 75 87.5 221 12.5 25 37.5 50 62.5 75 87.5 222

Shot 72

222 12.5 25 37.5 50 62.5 75 87.5 223 12.5 25 37.5 50 62.5 75 87.5 224 12.5 25 37.5 50 62.5 75 87.5 225

In electric mode

225 12.5 25 37.5 50 62.5 75 87.5 226 12.5 25 37.5 50 62.5 75 87.5 227 12.5 25 37.5 50 62.5 75 87.5 228

Slow down tempo as car comes to a stop.

Shot 73

the HEV accelerates from zero to 100 km/h in 19.6
228 12.5 25 37.5 50 62.5 75 87.5 229 12.5 25 37.5 50 62.5 75 87.5 230 12.5 25 37.5 50 62.5 75 87.5 231

Music punctuates the start of the "race".

Shot 74

Background music. Moderate tempo.

seconds. This is slower than a conventional
231 12.5 25 37.5 50 62.5 75 87.5 232 12.5 25 37.5 50 62.5 75 87.5 233 12.5 25 37.5 50 62.5 75 87.5 234

Shot 76

Escort station wagon, but in hybrid mode the HEV

is faster.

237 12.5 25 37.5 50 62.5 75 87.5 238 12.5 25 37.5 50 62.5 75 87.5 239 12.5 25 37.5 50 62.5 75 87.5 240

Background music. Faster tempo.

Shot 77

Shot 78

240 12.5 25 37.5 50 62.5 75 87.5 241 12.5 25 37.5 50 62.5 75 87.5 242 12.5 25 37.5 50 62.5 75 87.5 243

Its time

Fast tempo. Pause at 249.

Shot 79

of only 10.8 beats the standard Escort by

almost a full second.

246 12.5 25 37.5 50 62.5 75 87.5 247 12.5 25 37.5 50 62.5 75 87.5 248 12.5 25 37.5 50 62.5 75 87.5 249

Music fades-out.

Background music fades-in. Slow tempo. FX: natural sounds of a suburban morning.

Shot 80

Shot 81

249 12.5 25 37.5 50 62.5 75 87.5 250 12.5 25 37.5 50 62.5 75 87.5 251 12.5 25 37.5 50 62.5 75 87.5 252

Most homes and

parking facilities in Canada already have outlets

which can be used for recharging electric vehicles.

Shot 82

If recharged every second

FX: "chk"

Shot 83

nigh for 6-8 hours the HEV batteries will

Shot 84

last approximately 11 years.

267 12.5 25 37.5 50 62.5 75 87.5 268 12.5 25 37.5 50 62.5 75 87.5 269 12.5 25 37.5 50 62.5 75 87.5 270

Shot 85

270 12.5 25 37.5 50 62.5 75 87.5 271 12.5 25 37.5 50 62.5 75 87.5 272 12.5 25 37.5 50 62.5 75 87.5 273

273 12.5 25 37.5 50 62.5 75 87.5 274 12.5 25 37.5 50 62.5 75 87.5 275 12.5 25 37.5 50 62.5 75 87.5 276

FX: cheering voices fade-in and then fade-out.

Shot 86

276 12.5 25 37.5 50 62.5 75 87.5 277 12.5 25 37.5 50 62.5 75 87.5 278 12.5 25 37.5 50 62.5 75 87.5 279

279 12.5 25 37.5 50 62.5 75 87.5 280 12.5 25 37.5 50 62.5 75 87.5 281 12.5 25 37.5 50 62.5 75 87.5 282

282 12.5 25 37.5 50 62.5 75 87.5 283 12.5 25 37.5 50 62.5 75 87.5 284 12.5 25 37.5 50 62.5 75 87.5 285

285 12.5 25 37.5 50 62.5 75 87.5 286 12.5 25 37.5 50 62.5 75 87.5 287 12.5 25 37.5 50 62.5 75 87.5 288

friendly vehicles.



* Industry, Government and Academia have combined



resources to make this project a reality.



Through their continued collaborative efforts, HEV's may



finally bring the automobile into harmony with



the environment.



Shot 88

**Shot 89**



Foreground music starts to fade-out.



EXHIBITION SLIDES

- 1 Installation
- 2 Visual identity section
- 3 HEV logo/construction
- 4 HEV stationery
- 5 HEV t-shirts
- 6 Collaterals
- 7 Installation
- 8 Magazine advertisement
- 9 Billboard advertisement
- 10 Poster advertisement
- 11 Installation
- 12 Storyboard (frames 1-12)
- 13 Storyboard (frames 13-24)
- 14 Storyboard (frames 25-36)
- 15 Storyboard (frames 37-48)
- 16 Storyboard (frames 49-60)
- 17 Storyboard (frames 61-72)
- 18 Storyboard (frames 73-89)
- 19 Installation

